Report of Findings

Fairness Evaluation of the Restructuring of the BC Rail Freight Division

Prepared for:

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Executive Summary

Charles River Associates (CRA) was retained by the British Columbia Ministry of Transportation (the Province) through a competitive process to act as fairness advisor in the matters of the BC Rail Freight Division restructuring and the BC Rail Port Subdivision restructuring. This report contains a detailed review of the process adopted to transfer the operations of the BC Rail Freight Division from the provincially owned Crown Corporation, British Columbia Railway Company (BCRC), to a private operator. In addition, this report documents the considerations and efforts of the Province throughout the process to ensure that the interests of all stakeholders were understood and considered in the evaluation of the various proposals. Finally, this report provides an independent analysis of the value of the BC Rail Freight Division with adjustments to reflect the cost and commercial synergies that would be expected to accrue to the successful proponent.

Consistent with our Interim Report of November 14, 2003, CRA has concluded that the Province and its advisors designed and managed the BC Rail restructuring process in a manner consistent in all material respects with current best practices usually followed in similar transactions. Furthermore, we found the process was designed and managed to be fair to the proponents. We also found that the Province and the Evaluation Committee employed an objective and structured process in the evaluation of the proposals.

CRA believes that, compared to the status quo, the BC Rail transaction will improve the competitiveness of British Columbia industries, promote growth of new passenger services and freight products, including intermodal, and make a long-term, positive contribution to communities and First Nations. In addition, we believe the transaction agreement includes sufficient and appropriate controls that will ensure sustained economic development, preserve competition among freight rail service providers, and minimize impacts to the employees.

The financial value obtained by the Province was above what might be expected, based upon a quantitative comparison of the BC Rail transaction to recent, similar railroad transactions. We believe the purchase price properly reflects BC Rail's efficient operations, potential for market growth, and the stability and quality of British Columbia's economic base.

CRA developed and applied a detailed discounted cash flow model to validate further that the Province received fair and reasonable compensation for BC Rail. In our estimation, the restructuring of the BC Rail Freight Division provided the Province a significant net value increase over what would have been received had the BC Rail transaction not occurred. This value will be enhanced further upon the completion of the BC Rail Port Subdivision transaction.

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1 Introduction

1.1 OVERVIEW

Charles River Associates (CRA) was retained by the British Columbia Ministry of Transportation (the Province) through a competitive process to act as fairness advisor in the matters of the BC Rail Freight Division restructuring and the BC Rail Port Subdivision restructuring.

CRA's involvement in the BC Rail Freight Division restructuring process began in October 2003. By this point in the process, proponents already had submitted round two proposals. CRA's contract with the Province called for an Interim Report in mid-November, which was delivered on November 14. Consistent with the requirement for a final report in mid-December, CRA submits this report, which reflects additional analyses performed and new information received since the submission of the Interim Report.

Specifically, this report contains a detailed review of the process adopted to transfer the operations of the BC Rail Freight Division from the provincially owned Crown Corporation, British Columbia Railway Company (BCRC), to a private operator. In addition, this report documents the considerations and efforts of the Province throughout the process to ensure that the interests of all stakeholders were understood and considered in the evaluation of the various proposals. Finally, this report provides an independent analysis of the value of the BC Rail Freight Division with adjustments to reflect the cost and commercial synergies that would be expected to accrue to the successful proponent.

1.2 PROJECT PURPOSE

The purpose of this project is to provide an independent commentary on the fairness of the process and the reasonableness of the results of the BC Rail Freight Division transaction. Both governments and private enterprises increasingly are using independent fairness advisors to provide assurance to their constituents, citizens, and stockholders that complex processes are executed properly. Specifically, fairness advisors confirm whether processes are designed and managed in a way that is consistent with best practices, treat all participants in a fair and honest manner, and result in balanced solutions that maximize value subject to market conditions and other exogenous constraints, such as the policy considerations that are an integral part of this transaction. It is important to note that, because the Province retained CRA after the transaction process began, our primary role as fairness advisor has been to conduct reviews and analyses in retrospect of process events and decisions.

Introduction

The complexity and enormity of the task at hand is underscored by the fact that this transaction is not just a straightforward sale of one business to another; rather, BCRC needed to restructure the BC Rail business model to facilitate the transfer of railroad operations rather than the transfer of assets, and the Province had to design a process that reconciled its policy objectives as government with its financial objectives as shareholder. To accomplish these goals, the Evaluation Committee, with support from a number of expert advisors, performed in-depth analyses in a variety of areas, inlcuding public policy, shipper industry economics, regulatory economics, transportation network analysis, railroad operations, financial modelling, forecasting, capital planning, and legal opinions, to name a few.

In addition to managing the many activities, the Evaluation Committee developed a structured approach to process and combine the results of the various studies, interviews, and analyses. The approach provided a forum where the information could be weighed and acted upon properly. Throughout the process, the Evaluation Committee made decisions and assigned new tasks. Later in the process, a Steering Committee was formed to provide guidance with regard to the discussions and negotiations with the finalist proponents. Given the large number of players involved, the substantial amount of information and data to be processed, and the large number of interrelationships among the various facets of the BC Rail transaction, the Ministry acted prudently in seeking assistance in the form of an independent fairness advisor to ensure that all of this activity was conducted properly and effectively.

1.2.1 Background

Prior to restructuring activities associated with this project, BC Rail was the railway arm of the British Columbia Railway Company, a Crown Corporation wholly owned by the Province of British Columbia. The corporation includes BCR Properties, which manages the company's real estate holdings. The third largest railway in Canada in terms of continuous track and revenue, the BC Rail network consists of 2,315 route-kilometres throughout British Columbia. It is connected via line interchanges to all rail-served locations in North America.[1] With 147 locomotives, almost 10,000 rail cars, and over 1,500 employees,[2] the railroad operations offer a significant contribution to the economy of British Columbia with almost all of BC Rail's customers selling their commodities outside the province.[3] In 2002, the movement of

[1] British Columbia Railway Company, Annual Report 2002.

[2] URL: http://www.bcrail.com/aboutus/equipment.htm.

[3] British Columbia Railway Company, Annual Report 2002.

commodities generated more than 80 percent of total BC Rail revenue. The remainder was earned through car hire, switching operations, and track access fees.[4]

The Province of British Columbia chose to restructure BC Rail to provide revitalized, sustainable, and strengthened rail service. As a result of the current restructuring, the Province will be able to take advantage of the economies of scale associated with larger railway operations. These economies are expected to translate into more competitive rates and services for freight shippers than BC Rail would have been able to provide on its own. Furthermore, by linking BC Rail operations to a larger railway company, BC Rail will have much greater access to funds for maintenance and capital improvements. As a result, the Province can expect more reliable rail service at a lower cost. This will improve British Columbia's economic position by making domestic industry more competitive in world markets and by ensuring a sustainable and modern transportation infrastructure. The restructuring of BC Rail will be accomplished by divesting the operations of the rail business while maintaining Crown ownership of the railway infrastructure, including the land, rights-of-way, rail bed, and track. Continued, effective operation of both the BC Rail Freight Division and the Port Subdivision are crucial to the economic strength of British Columbia. Accordingly, the successful handling of the transactions related to these two important assets is of great interest to the Province and its constituents.

To assist in evaluating potential commercial operators of the BC Rail Freight Division, the Province retained CIBC World Markets (CIBCWM). Nine parties requested and received the Confidential Information Memorandum prepared by CIBCWM, and five of those parties submitted round one proposals. Four of these parties—Canadian National Railway, Canadian Pacific Railway, OmniTRAX in partnership with Burlington Northern Santa Fe Railroad, and RailAmerica—were admitted into the second round, with three submitting subsequent second round proposals. In evaluating these proposals, the Province considered the sustainability of its economic development, the preservation of competition among freight rail service providers, the future access for passenger rail services, and the maintenance of positive community relationships and services. The Province announced on November 25, 2003, that Canadian National Railway (CN) had the preferable proposal package.

1.2.2 Objectives

The Ministry of Transportation requested that CRA, as independent fairness advisor, review the bidding process and evaluate the fairness of the transaction value. Specifically, the Ministry's objectives of the project were to ensure that:

[4] Ibid.

- A competitive bidding process was undertaken and overseen by the Evaluation Committee
- The Province, as shareholder, will receive fair value for the transaction

There is substantial interaction between the two objectives. Although competitive bidding processes are neither strictly necessary nor sufficient to guarantee that the Province, as shareholder, will receive fair value for the transaction, it is our experience that proper structuring of the bidding process—from product definition through auction design and implementation—often is crucial to ensuring that the seller receives fair value. Accordingly, our analysis takes into account the interdependence of the two objectives, as our analysis of the financial outcomes of the restructuring process relies on our assessments of the design and implementation features of that process.

We also note that while the Province seeks assurance that the transaction achieved "fair value" for the Province as shareholder, the Province clearly has responsibilities other than that of a shareholder in the restructuring and endeavoured to take this into account. CIBCWM's original Request For Proposals (RFP) solicited "Expressions of Interest in the Freight Division" and indicated that in addition to proceeds to the Province, Expressions of Interest were to be evaluated on the basis of "a number of strategic considerations that are important to communities, customers, and BC Rail employees, including:

- Sustainability—proposals must promote a robust and well-maintained transportation infrastructure, which supports the long-term economic development and diversification of communities throughout British Columbia;
- Competitiveness—proposals must recognize industrial customers' desire for competitive freight rail services and rates while ensuring integrated North American access to preferred markets and carriers for interline rail shipments;
- Growth Opportunities—proposals must accommodate access to the railway line for third party passenger rail services on reasonable economic terms and identify any new opportunities for freight rail services; and
- Community Specific Issues—proposals should demonstrate how they would benefit key groups, such as employees, communities, and First Nations and ensure continuation of the rail shuttle service between D'Arcy and Lillooet."

There is, of course, a natural tension between increasing the financial proceeds to the Province and many of these strategic public policy considerations. Our analysis takes into account this trade-off. In our Interim Report, our assessment of the bidding process encompassed a review

of how the bidding and proposal evaluation processes reflected these strategic considerations and how they were balanced against the goal of increased proceeds. In particular, we sought to establish that the bidding process was designed in a manner that enabled the Province to achieve fair and reasonable proceeds subject to the achievement of the Province's other strategic goals.

This report provides additional analyses of process fairness and our assessment of whether the Province received "fair value" for the transaction given these strategic considerations and how the final agreement addresses each of them.

1.3 ABOUT CHARLES RIVER ASSOCIATES

CRA is a multidisciplinary consulting firm with internationally recognized skills and experience in economics, finance, and transportation. We have significant experience in the analysis of the transportation industries; in providing financial advisory services for privatization, commercialization, and restructuring efforts; in designing, implementing, and monitoring the sale of major infrastructure-related assets; and in providing critical assessments of procedures, analyses, and documents in a wide variety of legal, regulatory, and public policy forums. Our team has successfully conducted assignments similar to this project for other high-profile clients in Canada, the United States, and around the world.

The professionals on the CRA team assigned to this project have a variety of relevant backgrounds, ensuring that the broad range of skills and capabilities that were required to accomplish the goals of this project were brought to bear on the assignment. Table 1 provides a summary of the CRA team's skills and expertise. Detailed personnel biographies and a full list of CRA's relevant past projects are included in Appendix 1.

Table 1—Summary of CRA Team Expertise in Addressing the Project Objectives

Project Objective	CRA Team Relevant Expertise
Ensure that the Evaluation Committee undertook and oversaw competitive bidding processes	• Transaction design and oversight • Competition economics • Public policy and regulatory analysis • Legal/regulatory experience in critical evaluation of data and documents • Industry experience, including knowledge of potential buyers
Ensure that the Province, as shareholder, will receive fair value for the transactions	• Transaction design and oversight • Public policy and regulatory analysis • Finance • Valuation • Deep industry expertise, including benchmarking analysis

1.4 ORGANIZATION OF THE REPORT

CRA organized this assignment into three phases:

Review of the Selection Process

Review of the Non-Financial Strategic Value to the Province as Representative of its Citizens

Review of the Financial Value to the Province as Shareholder

The material covered in Chapter 2, "Review of the Selection Process," is a review of the fairness of the bidding and proposal evaluation processes. As noted above, our Interim Report submitted on November 14, 2003, included a preliminary review based on information available at the time of submission. Since then, we continued to gather information and review events as they occurred, and we have updated our original assessment of the transaction processes. As such, Chapter 2 includes a discussion of concerns raised by transaction participants later in the process. We evaluated these concerns with respect to the organization and execution of the processes.

The analysis and commentary in Chapter 3, "Review of Non-Financial Strategic Value to the Province as Representative of Its Citizens," address the public policy issues and strategic objectives set out by the Province in its original RFP to proponents. CRA reviewed the objectives pertinent to each group of stakeholders and evaluated the extent to which the final

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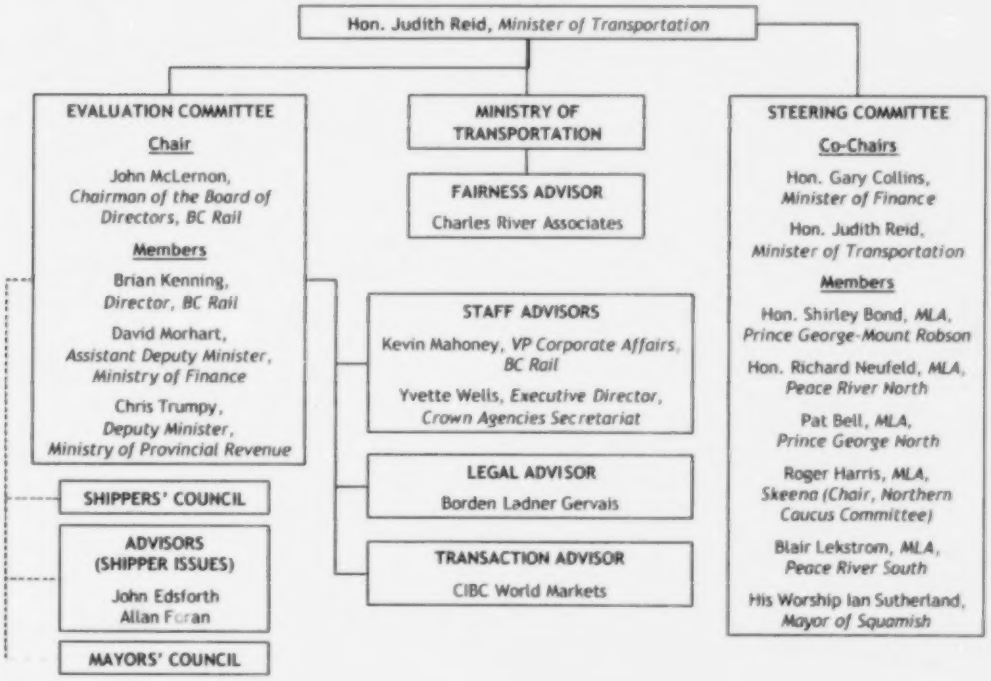
transaction meets the Province's goals with regard to BC Rail employees, shippers, communities, First Nations, and the 2010 Winter Olympics.

The analysis and commentary in Chapter 4, "Review of Financial Value to the Province as Shareholder," include a review of the CIBCWM financial advice provided to the Province; a CRA econometric analysis of comparable transactions; and the results of a CRA discounted cash flow model based on a forecast of expected revenues and costs of BC Rail as a stand alone company. We also forecasted cash flows and the associated net present value (NPV) for the new, combined railway operation given the cost and commercial synergies that might be expected as a result of the network leverage of the new, larger railway network.

2 Review of the Selection Process

The provincial Cabinet ultimately selected the proponent to restructure the BC Rail Freight Division. The responsible minister, the Minister of Transportation, was supported by an Evaluation Committee that oversaw the transaction process and provided recommendations, and by a Steering Committee that ensured that the views of affected regions were considered in the decision-making process. The diagram below depicts the interrelationships among these bodies and other groups supporting the process.

Figure 1—Process Organization Chart for BC Rail Restructuring



2.1 APPROACH AND METHODOLOGY

We have reviewed the process undertaken to select an operator for the BC Rail Freight Division. In this section, we offer our view of whether the process was fair and whether it resulted in competitive bidding. CRA's extensive experience in managing transactions and in monitoring the adequacy of transaction design and implementation for third parties has provided us with an understanding of what needs to be done at each step of a transaction

process to ensure fairness and to promote a competitive outcome. We have evaluated the adequacy of the design and execution of the transaction process against what we consider to be best practices.

In conducting our review, we have relied on documentation produced through the transaction process itself, as well as interviews with process managers, participants, and stakeholders. Appendix 2 includes our interviewee list and interview guide. Our analysis accounts for the trade-offs or constraints necessarily placed on the restructuring process by the potentially conflicting strategic considerations that the process must address in addition to maximizing proceeds to the Province.

2.2 EVALUATION OF PROCESS MECHANICS

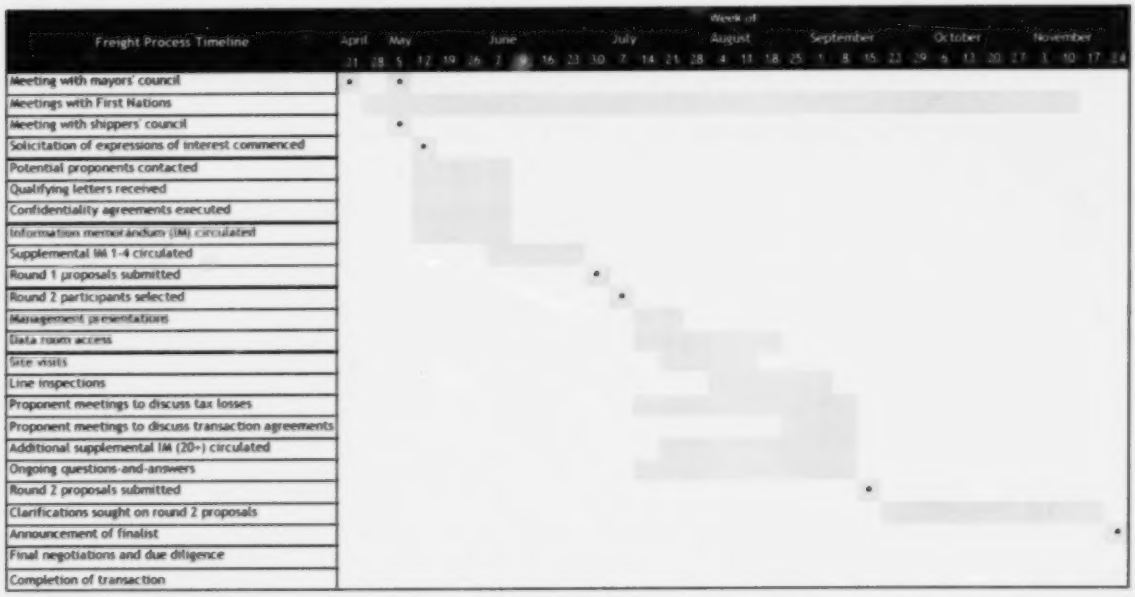
The subsections below address the key steps and procedures associated with the Freight Division restructuring process. The process timeline is depicted in Figure 2. Since the filing of our Interim Report, we have had the opportunity to conduct additional interviews, including interviews with representatives of the finalist proponents. Given their involvement in the latter stages of the transaction process through the late summer and fall of 2003, these proponents bring a unique perspective as compared to proponents who exited the process earlier, or as compared to other stakeholders. Therefore, this section of our Final Report represents more than a simple update to the discussion contained in our Interim Report.

Review of the Selection Process

Figure 2—Process Timeline for BC Rail Freight Division Restructuring

Freight Process Timeline	April		May				June					July				August				September				October				November			
Week of	21	28	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24
Meeting with mayors' council	•		•																													
Meetings with First Nations																																
Meeting with shippers' council			•																													
Solicitation of expressions of interest commenced				•																												
Potential proponents contacted																																
Qualifying letters received																																
Confidentiality agreements executed																																
Information memorandum (IM) circulated																																
Supplemental IM 1-4 circulated																																
Round 1 proposals submitted											•																					
Round 2 participants selected												•																				
Management presentations																																
Data room access																																
Site visits																																
Line inspections																																
Proponent meetings to discuss tax losses																																
Proponent meetings to discuss transaction agreements																																
Additional supplemental IM (20+) circulated																																
Ongoing questions and answers																																
Round 2 proposals submitted																						•										
Clarifications sought on round 2 proposals																																
Announcement of finalist																																•
Final negotiations and due diligence																																
Completion of transaction																																

Figure 2—Process Timeline for BC Rail Freight Division Restructuring



Review of the Selection Process

2.2.1 Selection of Transaction Advisor

For the BC Rail Freight Division restructuring process, the Province retained two key transaction advisors. It retained CIBC World Markets (CIBCWM) to manage the transaction process and Borden Ladner Gervais (BLG) to act as legal advisor.

CIBCWM had been assisting the Province and BC Rail with other related transactions and was chosen to manage the Freight Division restructuring process due to the synergies created by having a single party manage the multiple transactions. BLG is the longstanding outside counsel to BC Rail. BLG is familiar with many BC Rail business issues and understands BC Rail's relationship and responsibility to the Province as shareholder. Our discussions with representatives of the Province, the Evaluation Committee, and BC Rail indicate a consensus that these advisors performed their functions well and provided the Province with appropriate advice and counsel. Several proponents also commented favourably on the work of the advisors, while some other proponents were critical with regard to certain issues, as discussed below.

To ensure that no potential conflicts of interest developed, CIBCWM's engagement letter contained a provision that it could not take on any financial advisory engagement with any other party with respect to the sale of any other railroad operating in North America for the duration of the BC Rail Freight Division transaction process.

2.2.2 Marketing Activities

The restructuring process was initiated on May 15, 2003, when the Minister of Transportation, the Honourable Judith Reid, issued a news release, reported in both the regular business press and the trade press, and when CIBCWM released the Request For Proposals (RFP) via the publicly accessible Web sites of BC Rail and the Ministry of Transportation.

Our review of internal process documents and our discussions with Evaluation Committee members and the transaction advisors indicate that the Province's goal was to have a very open process and to attract as many proponents as possible so as to maximize competition.

CIBCWM proactively contacted parties (by phone and/or e-mail) it considered to be potentially interested and capable proponents to inform them of the opportunity to participate in the restructuring process. Other parties who had learned of the process through the press or other means also contacted CIBCWM on their own to gather more information. Our review of internal documentation indicates that CIBCWM was in contact with over twenty potential proponents in the early stages of the process.

Based on our own knowledge of the North American rail industry, we do not believe that there were any obvious potential proponents who failed to learn of the opportunity to participate in the restructuring process. In addition, CRA contacted several likely proponents who were not listed on the CIBCWM contact list. In each case, these proponents had been aware of the BC Rail opportunity and chose not to pursue it for various business reasons of their own.

As prospective proponents learned more about the restructuring process and opportunity, some expressed concerns that in order to be viable competitors they would need to find partners with complementary assets, capabilities, or experience. CIBCWM offered to assist prospective proponents in finding appropriate partners. The views expressed during our interviews indicate that CIBCWM was fair, impartial, and objective in playing this role. Our discussions with proponents indicate that they valued and appreciated the assistance. CIBCWM, under instructions from the Province, undertook these efforts in order to encourage participation by as many types of companies and potential proponents as possible, thereby increasing the competitiveness of the bidding.

2.2.3 Information Provision and Communications

The process that followed the release of the RFP was divided into five broad phases. Table 2 summarizes the information flow to proponents in each phase. (It should be noted that the Minister of Transportation provided bi-weekly bulletins on the BC Rail restructuring process. These bulletins are available to the public on BC Rail's Web site.[5])

[5] URL: http://www.bcrail.com/rfpupdate/ProvincialGov/.

Table 2—Process Phases and Information Flows for the BC Rail Freight Division Restructuring

Phase	Phase Endpoint	Participants	Information Provided to Proponents
I	Qualification of proponents who met the criteria listed in the RFP and who submitted an executed confidentiality agreement (Early June 2003)	Open to any party who wished to submit an expression of interest in response to the RFP, i.e., there were no restrictions placed on participation in this first phase	RFP available to the public via BC Rail Web site
II	Receipt of round one proposals (June 30, 2003)	Proponents who submitted executed confidentiality agreements and whose expressions of interest demonstrated that they met the initial criteria laid out in the RFP	Confidential Information Memorandum Supplementary information memoranda/questions-and-answers
III	Receipt of round two proposals (September 15, 2003)	Proponents who submitted acceptable round one proposals	Management presentations Access to data room Site visits Line inspections Information meetings re tax losses Information meetings re transaction agreements Supplementary information memoranda/questions-and-answers
IV	Identification of provisional selected proponent for final negotiations (November 25, 2003)	Proponents who submitted acceptable round two proposals	Supplementary information memoranda/questions-and-answers Specific information required to clarify aspects of proposals
V	Conclusion of transaction process (TBD)	Canadian National Railway—proponent identified as being best able to fulfil the Province's objectives	Information required for final due diligence

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While the Province did not establish a separate, formalized communications protocol document for this process, the meeting minutes, presentations, and other documents we have reviewed show that from the outset of the process, both the Evaluation Committee and the transaction advisors shared a common objective of ensuring that all proponents were treated fairly and in a manner that did not provide any proponent with procedural or informational advantages as they prepared their round one and round two proposals. The steps taken to ensure fair and equal treatment included the following:

- At certain points in the process some proponents asked for additional information that, according to the process plan, would not be provided until a subsequent phase. In general, these requests were refused. In certain instances, where a proponent made a compelling argument as to why certain information was required earlier than had been planned, the request was granted, but the additional information was made available to all proponents simultaneously.

- All questions received from proponents and the answers to these questions were made available simultaneously to all proponents.[6] The questions and answers provided to proponents were worded so as to preserve the anonymity of the party who submitted the question.

- Questions from proponents were addressed on a "first-in first-out" basis to ensure that no proponent received undue priority in having questions answered.

Specific written procedures were developed for the data room and provided to proponents, along with attendance log sheets, question/additional data request forms, and photocopy request forms. Also, a protocol regarding conduct during proponent site visits and line inspections was developed and distributed to BC Rail employees to ensure that no proponent received inappropriate information or any type of informational advantage in relation to any other proponent in preparing its round two proposal. Interviews and site visits with BC Rail field personnel verified that these protocols were understood and followed by local management during the proponent tours.

Except for the initial RFP, which was made public, all other information was provided to proponents subject to the conditions of the confidentiality agreements they had signed. We understand that there were occasional concerns that a proponent possibly had contravened its confidentiality agreement. In each of these instances, the concern was investigated by CIBCWM and the proponent was reminded formally by CIBCWM of the terms of the confidentiality agreement, the importance of adherence to its conditions, and the potential

[6] We understand that proponents submitted over 600 questions.

sanctions for breaches. In our discussions with the transaction advisors and the Evaluation Committee members, they indicated that none of these instances was judged by CIBCWM or by the Evaluation Committee to have had any material impact on the process; we concur with this judgment.

During our interviews with stakeholders and other interested parties, one of the principal concerns consistently expressed by the sample of shippers, BC Rail employees, First Nations representatives, and others with whom we spoke was the seeming lack of information and communication about the process for non-participant stakeholders. The lack of information also was a common theme in the media coverage surrounding the process. The Evaluation Committee and BC Rail management, to the extent possible, did communicate the status of the timeline of the process and release key information as to the number of proponents and the status of the evaluation of those proposals. The Evaluation Committee also provided ample opportunities for the stakeholders to inform it of each of their specific concerns. However, the specifics of the contents of the proposals and the specifics of the considerations and interim findings of the Evaluation Committee were not discussed publicly.

While the desire to share more detailed information with key constituents throughout the process is understandable, the confidentiality agreements served a necessary purpose by ensuring that all of the proponents had the same information and that none of the proponents had the opportunity to influence the Evaluation Committee through the media or by negotiating in public. While the absence of detailed information may have increased speculation by the public and the media, we found that the Evaluation Committee struck an appropriate balance between sharing information with those who needed to know, protecting the confidentiality of the participants, and ensuring the neutrality of the process. We did not find any evidence that the process was manipulated or engineered to validate a predetermined decision.

We also were informed of two instances where violations of the confidentiality process occurred. In the first case, an internal BC Rail analysis was intentionally leaked to the media. In the second case, data were sent prematurely to a party who should not have had access to the information at that time, although immediate steps were taken to contain the situation.

In the first case, BC Rail management went to great effort to identify the source of the leak, including engaging the services of a KPMG forensics audit team. These efforts ultimately were unsuccessful at identifying the source of the leak. However, KPMG recommended additional information security measures, which were implemented at BC Rail and reduced the probability of future leaks. The leaked internal analysis was published widely in the media, thus making it available to all of the proponents. Our understanding is that the leaked information was BC Rail management's view as to possible future scenarios for the rail restructuring. Since

BC Rail management did not have access to other companies' detailed data or knowledge of other companies' specific strategies, the leak was of no material importance with regard to the transaction process.

In the second case, we were informed that the error was quickly identified. We have seen documented statements from the lawyers involved verifying that the data were retrieved from or destroyed by those who had access. Based on our discussions with Evaluation Committee staff and advisors, we do not believe that this incident had any bearing on the outcome of the process.

In the days leading up to the announcement of CN's selection, there were several media stories that referred to studies that had been leaked. These studies had been conducted by advisors to the Evaluation Committee prior to the submission of round two proposals. We do not believe that the leak in any way influenced the Province's decision-making, nor do we believe that the leak conferred any advantage on any participant, given that the same information was available to all from the media.

Our initial discussions with proponents regarding information and communication issues revealed a consensus that appropriate information was made available in the Confidential Information Memorandum and early supplements. Information and responses to proponent questions were released on a timely basis. Indeed, some proponents offered particular praise on the quality of information provided by BC Rail management and the responsiveness of CIBCWM.

During our later interviews, which included interviews with representatives of finalist proponents, some interviewees expressed considerable dissatisfaction with the materials initially contained in the data room. These interviewees indicated that in general the transaction advisors did provide requested information (i.e., information that was expected, but not found in the data room) on a reasonably quick basis, but expressed frustration that they had to go through the process of requesting information that they considered to be "obvious material for the data room" in the first place. Some interviewees felt that the level of information the transaction advisors chose to provide prior to the submission of round two proposals was insufficient to allow for the preparation of a complete proposal, including committed financing, within the time frames allowed.

2.2.4 Proponent Qualifications

In keeping with the Province's objective of conducting an open, competitive process, CIBCWM set a low threshold for proponents to qualify to receive the Confidential Information Memorandum and to submit a round one proposal. As stated in the RFP, applicants were required to provide a letter demonstrating the following:

- Background information on their operating capabilities
- Their history and experience in transactions of this nature
- Evidence of their financial capacity
- Evidence of the business rationale for their interest

All applicants who sought to qualify as proponents were accepted. The nine qualified proponents included some financial groups presumably who had minimal, if any, operating capabilities, but potentially who could forge partnerships with parties who did and thereby become fully competitive proponents going forward.

Of the nine parties who received the Confidential Information Memorandum, five submitted round one proposals. Of these five proponents, one chose to withdraw from the process after being informed that its proposal was materially below the others. The remaining four proponents proceeded with their due diligence efforts. One proponent dropped out of the process before the submission of round two proposals. Interviews with this proponent verified that it dropped out for internal business reasons and not because of any weakness in the process or perceived unfairness. Of the three finalist proponents, one removed itself from the process a few days before the Province's announcement of CN's selection. We discuss some concerns expressed by proponents about the latter stages of the process below.

2.2.5 Proponent Due Diligence

As noted in section 2.2.3 above, proponents were provided with several information sources to assist with their due diligence efforts:

- Questions and answers
- Access to the data room
- Management presentations

- Site visits
- Line inspections
- Information meetings regarding tax losses
- Information meetings regarding transaction and revitalization agreements

As noted above, some representatives of the finalist proponents expressed dissatisfaction with the information initially contained in the data room (although they also noted that requested information generally was provided on a quick turnaround), and with the amount of information they had prior to the deadline for submitting round two proposals. Our prior discussions with the transaction advisors did not indicate that proponents had expressed serious concerns with regard to data availability and timeliness.

2.2.6 Bidding Format, Rules, and Procedures

The bidding format was consistent with the processes typically used by investment banks for such transactions.

Following initial qualification and execution of a confidentiality agreement, proponents were provided with the Confidential Information Memorandum (CIM) and asked to submit initial non-binding proposals (also referred to as "round one proposals" or "expressions of interest") as follows:[7]

1. Indicate the cash value of your proposal for BC Rail, assuming a transaction is structured as described in the CIM. The Expression of Interest should include a value for each of two scenarios: (i) the non-capital loss carry forwards (NOLs) are usable by you, and (ii) the NOLs are not usable (see section 6 of the CIM for a discussion of BC Rail's NOL position).
2. Provide conditions and terms of the proposal in detail including any material assumptions or qualifications made in submitting the proposal, and any approvals required.
3. Provide details on your anticipated sources and timing of financing, including any proposed commitments for debt or equity, and background on the providers of financing.

[7] This list was included in the round one process letters to bidders.

4. Describe how your submission promotes a robust and well-maintained transportation infrastructure, which supports the long-term economic development and diversification of communities throughout British Columbia.

5. Describe how your submission recognizes industrial customers' desire for competitive freight rail services and rates while providing integrated North American access to preferred markets and carriers for interline rail shipments.

6. Describe how your submission accommodates access to the railway line for third party passenger rail services on reasonable economic terms.

7. Describe your operating plan for BC Rail for the next 5 years and how it would benefit key stakeholder groups such as employees, communities, and First Nations, as well as your plans for addressing any potential impacts. The submission also should address the continuation of the Rail Shuttle Service between D'Arcy and Lillooet.

8. Describe any further due diligence items that will be required prior to the signing of a definitive agreement. Please indicate exactly the substance of the additional work that you would wish to undertake, which of your advisors would be involved, and an estimate of the time it will take to complete the work.

9. Provide your proposed timetable to completion.

10. Provide the names of the financial and legal advisors and other key consultants retained by you in connection with the proposal.

Review of the Selection Process

CIBCWM, followed by the Evaluation Committee, assessed the round one proposals. Proponents who submitted acceptable proposals were invited by CIBCWM to conduct due diligence and subsequently to submit round two proposals that included an offered price and any required changes to the draft Transaction Agreement and draft Lease Agreement, as well as a letter addressing the following issues:

1. Financial considerations–both value and non-capital loss carryforwards
2. Closing certainty, additional due diligence requirements, and timetable considerations
3. Business plan considerations regarding:
    a. Transportation infrastructure
    b. Rail line network and operations
    c. Protection of rates and service
    d. Employment plan
    e. Passenger service
    f. First Nations
    g. 2010 Olympic Winter Games
    h. D'Arcy to Lillooet Shuttle
    i. Communications strategy

Following consideration of the round two proposals, the Province announced on November 25, 2003, that CN had been selected as the preferred proponent.

This two-step bidding process with negotiations is common for transactions of this type. However, it does have certain potential drawbacks.

The use of non-binding round one proposals creates an incentive for proponents to inflate their round one proposals to ensure they are accepted for round two, but then to "discover" reasons for lowering their round two proposal amounts during due diligence. The inflated round one proposal amounts could lead to insincere low-value proponents being accepted into round two, while sincere high-value proponents are rejected.

This potential problem is tempered to some extent, however, by the fact that proponents will not wish to gain a reputation for reneging on proposals, particularly those large corporations who are frequently involved in such transaction processes. Also, the extent to which a proponent would need to incur material costs to conduct subsequent due diligence if it were selected in the first round provides the proponent a disincentive to inflate its round one proposals. Inflating a proposal above the proponent's true valuation increases the chance the proponent will be selected to participate in the second round when in fact it would rather not be selected to participate in the second round: if a proponent's true valuation is below other proponents' valuations, it is not likely to be selected as the finalist, in which case it would rather avoid the due diligence costs incurred in developing and submitting a second round proposal. We also recognize that because of the limited information that proponents have in the early stages of the process, any requirement to submit binding round one proposals probably would yield round one proposals with valuations reduced by large risk premiums.

Another potential drawback is that a process with a small number of bidding rounds may not be as successful in extracting the most competitive offers from proponents as compared to a more structured multi-round auction. However, the competitive benefits of a structured auction process require that all proponents submit proposals for essentially the same contract or set of assets with a limited number of evaluation criteria (ideally just one–price). A complex transaction such as the BC Rail Freight Division restructuring wherein proponents are required to address a multitude of policy variables in addition to price is less well suited to a structured multi-round auction process.

We note that the Province could have chosen to set strict conditions regarding the various policy issues and invited proponents to compete solely on a price basis for a contract including these conditions. However, this approach requires the Province to set such conditions with limited information about proponents' capabilities to address policy issues in diverse, unique, and creative ways.

Alternatively, the Province could have requested that each proponent submit a proposal in response to a contract that was identical for all proponents with the option for each proponent to offer alternative terms and conditions, thereby pricing each deviation separately and in combination. While this may have allowed for a more apples-to-apples comparison and evaluation of proposals, it likely would have meant greater effort for proponents and the proposal evaluation team.

2.2.7 Proposal Evaluation Criteria

2.2.7.1 Identifying Objectives

The Province's key objectives for the transaction are as follows:

- Maximizing value to the Province
- Promoting a robust and well-maintained transportation infrastructure, which supports the long-term economic development and diversification of communities throughout British Columbia
- Addressing industrial customers' desire for competitive freight rail services and rates while ensuring integrated North American access to preferred markets and carriers for interline rail shipments
- Accommodating access to the railway line for third party passenger services on reasonable economic terms and identifying new opportunities for freight rail services
- Demonstrating how the proposals would benefit key stakeholder groups, such as employees, communities, and First Nations, and ensuring continuation of the rail shuttle between D'Arcy and Lillooet

As noted in the previous sub-section, proponents were asked to address these points—both the financial value and the policy issues—in their round one and round two proposals.

Our initial discussions with proponents indicated that they generally understood the Province's reasons for including the various policy objectives in the transaction process, but noted that the listed objectives necessarily included trade-offs. The Evaluation Committee and the transaction advisors informed us that the general approach was to encourage proponents to focus primarily on maximizing financial value, with the idea being that in the final negotiation stage, some of this value, if necessary, could be "traded back" to the proponent in exchange for additional concessions on the other policy issues.

Our discussions with representatives of the finalist proponents indicated some uncertainty regarding the objectives for the process. While some interviewees noted that the transaction advisors did stress the financial objective, they also reported feeling that the Province's messages always seemed to place significant weight on the non-financial objectives, without providing a clear sense of priority among these policy objectives. Following the November 25

announcement, some interviewees expressed an opinion that the financial objective must have had a far greater weight than they had expected.

2.2.7.2 Structure for Balancing Objectives

Our review of the process used by CIBCWM and the Evaluation Committee to account for the various non-financial objectives of the transaction indicates that the proponents, the advisors, the Evaluation Committee, and the Cabinet explicitly addressed these objectives throughout the bidding process. The opinions and concerns of key stakeholders were sought from major shippers and from the mayors of BC Rail communities through the creation of both a Shippers' Council and a Mayors' Council. In addition, BC Rail's Aboriginal Relations Department met with and regularly corresponded with First Nations' representatives to advise and inform them of developments in the RFP process and to gather information about First Nations' concerns.

While the transaction advisors, following the direction of the Evaluation Committee, may have encouraged proponents to focus primarily on maximizing financial value to the Province in their submissions, all proponents recognized the importance of addressing the non-financial objectives and included sufficient detail in their proposals to support comparisons of the likely impacts of the choice of a transaction partner on the likelihood of achieving these objectives. For both proposal rounds, the transaction advisors compiled these differences for their presentations to the Evaluation Committee.

Given the multidimensional objectives and the inherent trade-offs among them, explicit weightings purposely were not listed in the RFP. As discussed above, this approach enabled the proponents to develop detailed proposals that reinforced the policy objectives that took advantage of each proponent's inherent strengths and uniqueness. For its own use, the Evaluation Committee did prepare a qualitative scoring system to evaluate each proposal package.

The Evaluation Committee carefully considered non-financial aspects of the second round proposals using evaluation criteria approved previously by the Cabinet. The Evaluation Committee then summarized these differences for presentation to the Cabinet in a document that allowed the comparison of the proposals against one another and against the status quo with respect to the following considerations:[8]

- Opportunities for growth in freight and potential passenger services
- Proponents' abilities to promote a sustainable transportation infrastructure
- Competitiveness of services, rates, and access to services
- Community issues, including effects on First Nations and employees

The Evaluation Committee prepared this document in parallel with a similar comparison of the transaction value aspects of the proposals. Significantly, the Evaluation Committee presented the Cabinet with the comparison of non-value aspects of the proposals before it was allowed to view comparisons of the dollar figures and other aspects of the proposals directly affecting transaction value.

The Cabinet and the Evaluation Committee relied on this qualitative scoring process to identify issues with each of the proposals and seek clarifications from the three final proponents. In some cases, the scoring system highlighted the fact that the proposal did not conform to specific requirements of the RFP. In other cases, the scoring system identified proposed solutions that fell short of the Province's expectation or that offered novel approaches that on the surface appeared attractive to the Province but that required further clarification before a full evaluation was possible.

[8] In addition to the financial proposal and these policy objectives, each proponent's ability to finalize a transaction within a short period of time also was considered.

2.3 REVIEW OF FAIRNESS OBJECTIVES

The following sub-sections assess the transaction process against a number of objectives related to procedural fairness, efficiency, and effectiveness.

2.3.1 FAIR AND IMPARTIAL PROCUREMENT PROCESS

Our Interim Report stated that the process established and implemented by the Province, the Evaluation Committee, and its advisors had been fair and impartial to date. The objective of fair and impartial treatment of proponents was established at the outset of the process and pursued consistently. As they prepared their round one and round two proposals, proponents were provided the same information at the same time and were treated equally in terms of responsiveness to their inquiries. Below we discuss a number of concerns and issues identified by interviewees subsequent to the filing of our Interim Report. While these concerns are in contrast to the generally positive comments we heard during our initial interviews, we do not believe that they invalidate our overall conclusion that the process was fair and impartial.

Interviews that were conducted after the submission of our Interim Report indicated that some proponent representatives had concerns, particularly regarding the latter stages of the transaction process.

As noted previously, some interviewees reported confusion over what they perceived as conflicting messages from the transaction advisors ("focus on financial value") and representatives of the Province ("non-financial objectives are important"). Some proponents expressed particular concern on this matter as they believed that they could be truly competitive only if non-financial objectives had significant weight, and thus the time, effort, and expense required to participate in the process would be worthwhile only in this case.

Some interviewees were both surprised and dissatisfied that they were not asked or permitted to make a formal presentation regarding their round two proposals to either the Evaluation Committee or to other representatives of the Province, and thus were concerned that the Evaluation Committee and the Cabinet might receive a "filtered" and incomplete view of their proposals.

Some interviewees also were concerned about the perceived activities of other proponents following the submission of round two proposals. For example, one proponent included a unique proposition in its submission to address shipper concerns over competition. The Evaluation Committee arranged a meeting where the proponent outlined this somewhat complex proposition to shipper representatives and answered questions; Evaluation Committee staff advisors attended this meeting to ensure that discussions at the meeting did

not stray from this narrow focus. The Evaluation Committee did not arrange parallel meetings with other proponents because their proposals did not contain similar propositions regarding competition issues (nor did they need to, given their particular circumstances). Some interviewees noted that reports and rumours of meetings between one proponent and shipper representatives raised fears that inappropriate information might be shared, including details of their own commercial contracts with shippers. Evaluation Committee staff advisors have confirmed to us that during the noted meeting, only the proponent's specific proposition regarding competition issues was discussed, and that information regarding other parties' confidential commercial contracts was not shared. CRA, the Province, and the Evaluation Committee are unaware of any other meetings or discussions between proponents and shippers regarding the transaction process.

Some interviewees also noted that they expected that following the submission of round two proposals, the Province quickly and publicly would name a single proponent for negotiations. As reports and rumours of discussions (e.g., those with shippers) involving other proponents surfaced, the interviewees felt that the selection had been made, even though the official response was that no such selection of a final proponent had occurred.

The reasons for various interviewees' concerns over these issues can be appreciated. Trade-offs are involved with regard to several of these points, for example:

- Specifying precise weights for objectives early in the process provides more clarity and certainty to proponents, but also constrains the Province's ability to respond to novel, creative, or unanticipated responses when there are multiple factors to consider.

- More meetings or presentations with proponents could provide a more complete picture of their proposals, but would require more time, effort, and expense from all parties.

- Identifying and announcing a preferred proponent for final negotiations based solely on round two proposals submitted would provide all parties with an earlier indication of their standing, but would be difficult and possibly risky to do without seeking clarifications or additional information regarding the round two proposals. Indeed, it would be unusual if an "auctioneer" in this type of process were to name a finalist and eliminate the remaining competitors without seeking clarification from the front-runner on its proposal and greater assurances that it would be able to reach a binding agreement.

- Asking for additional information or clarifications from proponents who are considered unlikely to be selected does provide more symmetrical treatment of proponents, but also imposes additional costs and burdens on them that may be unnecessary.

Review of the Selection Process

In any complex transaction process there are bound to be grounds for reasonable disagreement as to whether the optimal balance was found with regard to each and every potential trade-off, and that is true of this process as well. However, in the case of the BC Rail Freight Division transaction, we do not conclude that the process was unfair with regard to these issues.

The letter from CIBCWM to round two proponents on August 1, 2003, noted that after reviewing round two proposals "the Province may request that you meet with the Evaluation Committee and its advisors at a mutually agreeable time to discuss your Proposal … Based on its review of the Proposals received, the Province will at that time determine the appropriate next steps in the Transaction process." Whereas the Evaluation Committee and its advisors had the intention of communicating with individual proponents as deemed necessary following the submission of round two proposals, it appears from our interviews that at least some proponent representatives believed that all proponents would be treated in an absolutely symmetrical fashion up until the official announcement of a single proponent for final negotiations.

Our understanding of the actual course of events is as follows. After the receipt of round two proposals, the Evaluation Committee and its advisors determined that CN's proposal put it in the position of the "front-running" proponent. The Committee and its advisors decided to seek clarifications from CN on several aspects of its proposal, but felt it would be premature and imprudent to select and announce CN as the sole party for final negotiations until such clarifications had been received. An explanation of its proposition regarding shipper competition concerns was one such area where clarification was requested (and indeed part of the reason for requiring clarification on this issue is the unique competition situation CN's proposal presented as compared to the other proponents). Because there was still a reasonable degree of uncertainty as to whether CN would be selected, the competing proponents were not eliminated from the process; however, because of the sufficiently lower likelihood that these proponents ultimately would be selected, the Committee and its advisors did not ask them to undertake significant efforts in clarifying their own round two proposals.

We believe that the decision to seek clarification from the front-runner and not to eliminate other competitors while at the same time avoiding placing an undue response burden on them was reasonable, prudent, and in keeping with the message of the August 1, 2003, letter. We are unaware of other communications to proponents suggesting that all proponents would be treated in an absolutely symmetrical fashion up until the official announcement of a selection for final negotiations. In our discussions with the Evaluation Committee and its advisors, they indicated a belief that certain proponents also would reasonably expect that they were not front-runners because of the fact that they had not received significant requests for clarification of their round two proposals. At the same time, the Committee and its advisors indicated that they did not wish to announce any proponent's front-runner status prematurely, as this could

cause other proponents to abandon the process, meaning that the Province's options would be reduced in case it became apparent that a deal could not be reached with the front-running proponent.

After the Province became more certain that a deal likely could be reached with CN, a memorandum from CIBCWM to proponents on November 13, 2003, formally noted that clarifications had been requested from, and discussions held with, a front-running proponent. Some representatives of the other proponents expressed dismay at this memorandum as it conflicted with their professed expectation regarding symmetrical proponent treatment. What the Evaluation Committee and its advisors viewed as the normal identification of and discussions with a front-runner prior to the selection of a proponent for final negotiations, others viewed as being selection and negotiation prior to the final announcement. It is unfortunate if some proponent representatives had an understanding that was different from the actual flow of the process and now feel that the process was carried out improperly. However, based on our understanding of the process, how the process was communicated to participants, and how these types of process normally are conducted, we do not believe that they were treated unfairly.

Another issue involves BC Rail contract data pertaining to interline agreements that includes information on contracts between BC Rail and the finalist proponents. As part of the discussions to determine whether a final agreement likely could be reached with the front-running proponent and as the November 13 CIBCWM memorandum noted would happen, the Evaluation Committee advisors provided data of this type to CN. We understand that some proponent representatives feel that information pertaining to their own interline agreements with BC Rail may have been improperly or prematurely provided to CN. We already have noted that we do not find it unfair that following round two proposals, some information was provided to a front-running proponent as part of the process of clarifying its proposal and exploring the likelihood of reaching an agreement. Our role as fairness advisor does not extend to evaluating whether or not the release of information on interline agreements breached confidentiality provisions covering those or any other agreements between BC Rail and any other party.

We note another specific incident that could have led to perceptions of unfairness. On June 25, 2003, the *National Post* published an article in which an analyst in CIBC World Markets' Equity Research department apparently was quoted as saying that "CN is the most logical candidate" for the BC Rail Freight Division transaction. In response to this event, the CIBCWM transaction advisors contacted proponents to assure them that the Equity Research department is independent from the Investment Banking department and that the quoted analyst had no access to any confidential information. Also, as noted previously, CIBCWM's

engagement letter included provisions to ensure that there were no conflicts of interest across its investment banking operations.

Ideally, all staff at CIBC World Markets should have been more sensitive to the negative perceptions that comments of this type could create, and the development of a formal communications protocol at the outset of the process potentially could have averted the scenario that occurred. However, we do not believe that this event had any material impact on the transaction process, and our understanding is that after expressing initial dismay, proponents had no further concerns that the integrity of the process was compromised in any way.

2.3.2 Maximum Interest and Competitive Transaction

The transaction process was announced publicly with coverage in the popular and trade press. In addition, the transaction advisors proactively contacted all parties that they and BC Rail staff considered to be potentially competitive proponents. The requirements to participate in the process and to qualify as a proponent were very modest, and CIBCWM also attempted to match complementary parties to create as many highly competitive proponents as possible. These efforts resulted in significant interest and a competitive process.

2.3.3 Efficient Process Yielding Highest-Value Proposals

The two-step bidding process followed by negotiations is a common bidding format for transactions of this type. It is familiar to and well understood by proponents, and it is an appropriate choice given the multitude of evaluation criteria and the Province's understandable choice not to set concrete conditions regarding policy objectives in advance of the bidding process.

We believe that this process was successful in delivering proposals to the Province that provided high value across its financial and other policy objectives.

2.3.4 Equal Access to Information

All proponents were provided with the same information on a simultaneous basis in terms of the Confidential Information Memorandum, the data room, and the question-and-answer process. Following the submission of round two proposals, certain information was provided to CN, the front-runner, as part of the process of clarifying its round two proposal and exploring the likelihood of ultimately reaching an agreement. Proponent concerns regarding

fairness and information access were described in section 2.3.1. It can be appreciated that proponents would be dismayed to the extent that their understanding of the process diverged from actual events; however, as discussed above we do not believe that proponents were treated unfairly with regard to information access.

2.4 CONCLUSIONS REGARDING PROCESS FAIRNESS

Based upon its review of the data, correspondence, analyses, meeting notes, and media reports made available to it by the Province, CRA has concluded that the Province and its advisors designed and managed the BC Rail restructuring process in a manner consistent in all material respects with current best practices usually followed in similar transactions. This conclusion is supported by the responses received from many of the interviews conducted with participants, stakeholders, and interested parties, but we also note that several proponent representatives told us they felt some aspects of the latter stages of the transaction process were unfair to them. We understand the reasons put forth by these parties for believing their treatment was unfair, but ultimately, after considering all the information available to us, our view is that the process was carried out in a fair manner. While several minor issues also were noted and documented, these exceptions, not unusual in a transaction of this size and complexity, did not have a material bearing on the outcome. Furthermore, we found that the objective, structured process designed and managed by the Province and the Evaluation Committee to evaluate proposals was appropriate.

The quality and completeness of the data and information presented to the proponents by the BC Rail management team in the management presentations exceeded what our experience indicates is the norm associated with most other railway business transactions. However, we also note that some proponents were dissatisfied with the initial contents of the data room, although these proponents noted that any requested data were generally provided within a short response time. We also note that the Province invested significant resources to methodically document, analyse, and incorporate public policy objectives in order to facilitate consistency in the financial and non-financial evaluations of the proponents' proposal packages.

CRA believes that the Province designed and executed the process with considerable effort to achieve a result that will sustain economic development of the Province, preserve competition among freight rail service providers, enable future access for passenger rail services, maintain positive community relationships, and minimize impacts to the BC Rail employees.

3 Review of Non-Financial Strategic Value to the Province as Representative of its Citizens

3.1 THE PROVINCE AS REPRESENTATIVE OF ITS CITIZENS

In this and the following chapter, we consider whether the selection of CN to operate BC Rail adequately addresses the Province's dual roles in this transaction as: 1) shareholder seeking to obtain a fair and reasonable price for the use of assets that will continue to be owned by the Province on behalf of all its citizens, and 2) guardian of other, broader economic and non-economic interests of its citizens, including stakeholders with particularly strong interests in the future operations of BC Rail. We begin with consideration of these broader issues in this chapter, before turning to questions of transaction value in Chapter 4.

The transaction process that the Province undertook recognizes that the Province has a responsibility to protect and advance the interests of all of its citizens, including stakeholders whom the BC Rail transaction might affect directly. Once the Province determined that a partnership with a private operator was the best approach to preserving and improving the BC Rail business, the Province recognized the responsibility to ensure that the new operating partner would take measures to advance the broader interests of the Province in maintaining a competitive and sustainable transportation infrastructure to support economic growth in areas currently served by BC Rail and to protect the economic and non-economic interests of key stakeholders, including BC Rail employees, First Nations, and affected communities.

As discussed in Chapter 2, CIBCWM's RFP seeking Expressions of Interest in the Freight Division identified four strategic considerations and explicitly defined several specific objectives that focused on protecting and promoting the interests of stakeholder groups. These were:

- Sustainability—Promoting a robust and well-maintained transportation infrastructure, which supports the long-term economic development and diversification of communities throughout British Columbia

- Competitiveness—Addressing industrial customers' desire for competitive freight rail services and rates while ensuring integrated North American access to preferred markets and carriers for interline rail shipments

- Growth Opportunities—Accommodating access to the railway line for third party passenger services on reasonable economic terms and identifying new opportunities for freight rail services

- Community Specific Issues—Demonstrating how the proposals would benefit key stakeholder groups, such as employees, communities, and First Nations, and ensuring continuation of the rail shuttle between D'Arcy and Lillooet.

The following sections review how the proposed transaction addresses each of these four objectives and how the transaction may affect the targeted stakeholder groups. We begin with a discussion of competitiveness, addressing how the proposed transaction is likely to affect customer interests. We discuss growth opportunities, assessing the prospects raised by the proposed transaction for new freight and passenger services. We then consider how the proposed transaction affects the key stakeholder groups of BC Rail employees, communities, and First Nations. Finally, we address issues of sustainability.

These strategic goals logically build on one another. First, competitiveness is key if the transaction is to produce any benefits to the citizens of British Columbia, even in the short run. In the long run as well, the new network will grow only if it is competitive. Next, the affected communities and stakeholders will benefit only when and if that growth exceeds any short-term, negative impacts some of the stakeholders may experience as a result of the transaction. Finally, the improvements must be sustainable in the long run to qualify as having met the strategic objectives of the Province.

3.2 COMPETITIVENESS

The RFP states that proposals "must recognize industrial customers' desire for competitive freight rail services and rates while ensuring integrated North American access to preferred markets and carriers for interline rail shipments."

CRA has identified the following three elements of competition that we believe must be protected and/or enhanced to meet this strategic objective: competition among railroads, competition between rail and truck, and the competitiveness of BC products vis-à-vis other suppliers of similar commodities from other regions.

Below we analyse the competitiveness of the three finalist proposals. Our analysis shows that the Province's choice of CN as the BC Rail operator is likely to increase the competitiveness of British Columbia products as compared to the status quo. Our models also indicate that the CN proposal promotes substantial and meaningful competition.

3.2.1 CRA's Network Diversion Model and Analysis

Currently, when BC Rail shippers send freight to offline points—destinations outside of the province—they can choose among competing connecting railroads to carry the freight from the point of interchange to the ultimate destination.[9] BC Rail interchanges traffic with CN at Prince George and with CN, CPR, and BNSF at North Vancouver. Because BC Rail offers only one rate to the North Vancouver interchange, the connecting carriers can compete on equal terms for the second half of the trip.

In a rail merger, shippers often fear that the acquiring railroad may use price to discourage shippers from choosing a competing route. This will not be the case in instances in which the acquiring carrier is at such a clear competitive disadvantage on the second half of the trip that it cannot compete effectively. In many cases, the acquiring railroad cannot access the destination of the freight while one of its rivals can, and the acquiring carrier therefore is not a potential supplier for the second half of the trip. In these cases, the status quo routing for the trip will be maintained.

Similarly, in other cases, the acquiring railroad may have access to the destination, but with a route that is much more circuitous than the competing railroad's route. In these cases, the cost of moving the freight out-of-route may make the delivered cost of goods so high that the shipper cannot compete with other sources for the same commodity and the freight would not move at all on that origin-destination (O-D) pair. In such cases, as when the acquiring carrier cannot access the destination at all, the acquiring railroad is motivated to offer a competitive rate to the traditional interchange point for transfer to the competing carrier with a more direct route. In this way, the acquiring railroad can continue to generate revenue for the first half of the trip, which is preferable to having no revenue at all.

For both of these types of moves, the acquiring carrier's incentives are likely to be no different than those of an unaffiliated BC Rail. If a carrier cannot access a destination, or cannot access it economically, its incentive is to charge an amount for the movement from origin to the interchange point that allows the freight to move by rail on the O-D pair.

Similarly, incentives will not change for traffic where shippers currently find the combination with BC Rail clearly to offer the highest value service. The acquiring carrier and BC Rail, together, can charge a rate no higher than that which would cause the traffic to divert to less

[9] The competitive analysis presented here discusses only the competitive effects of the proposed transaction in terms of outbound freight, because inbound freight to BC Rail customers is minimal in volume. Similar competitive considerations apply for inbound freight, however, for traffic originating outside the Province.

preferred alternatives or not to take place at all, and this incentive will continue to constrain pricing. Indeed, traffic that already is moving from BC Rail to the acquiring carrier will become more competitive in the market place by virtue of the fact that service would be expected to improve as a result of the integrated operation. As average transit time is shortened and variability of transit time is reduced, rail customers will improve their total logistics costs through lower inventory carrying costs, lower car costs, and their ability to react more quickly to market opportunities.[10] Lower total logistics costs will make the delivered costs of goods more competitive with other sources of the same goods, thus expanding the geographic reach and market penetration of BC Rail shippers. The acquiring carrier may try to capture some of these benefits through price increases, in order to share the benefits of the integration with the shipper. Shippers in these cases have a strong negotiating position in that they have knowledge of the status quo rates.

In the case of BC Rail where the competing routes are of similar length,[11] however, shippers fear that the acquiring railroad will price the first half of the trip to induce the shipper to route cars on the newly integrated railroad, even though this pricing strategy may disadvantage the shippers through higher prices and more circuitous service. This is an important concern for shippers in the case of BC Rail. Much of the BC Rail traffic originates in the Prince George region. The shortest rail route from Prince George to eastern and south-eastern markets involves an interchange with CN at Prince George. In the event a Class I railroad other than CN acquired BC Rail, the acquiring company would be motivated to price traffic to the Prince George interchange in a way that encouraged shippers to move the traffic via the more circuitous route to Vancouver and beyond. This strategy by the acquiring railroad in turn would cause that particular traffic to be less competitive vis-à-vis other suppliers located outside of British Columbia when measured by the delivered cost of goods.

To properly compare the competitiveness of the proposals to one another and to the status quo, we performed detailed analyses of the current BC Rail traffic. We categorized the traffic into the different groups described above, based on the attributes of each O-D and commodity combination. We simulated the 2002 traffic data using CRA's rail network models for the status quo base case and three test scenarios that represented the integration of the BC Rail network with each of the three proponent's rail systems. Finally, we analysed the results to rank the proponents potential impact on rail competition.

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[10] It is customary in railroad merger studies to assume that traffic formerly interchanged between two merging carriers will improve overall transit time between 12 and 24 hours.

[11] Conventional industry wisdom defines "similar" as differing by less than 15 percent to 20 percent in length

3.2.1.1 Rail Network Development

CRA created a representation of the North American rail network by combining information from several sources. We extracted the U.S. rail networks, link attributes (including ownership and trackage rights), and station and junction codes from the U.S. Department of Transportation (DOT) National Transportation Atlas Database (1:2,000,000 scale; 2003 version)[12] and the Canadian rail networks and link attributes (including ownership and trackage rights) from the North American Transportation Atlas Database (1:1,000,000 scale; 1998 version; also from U.S. DOT).[13] The Railinc Standard Point Location Code list provided us with Canadian stations and junctions. This file did not contain geographic coordinates, so the station locations were geo-coded against the coordinates stored in the Canadian Geographical Names Data Base (CGNDB).[14] Using map reference information, we then manually located a sizeable number of stations that could not be located automatically. As a final step, we associated the station and junction locations to the nearest location on the 1:1,000,000 scale rail network to correct for the lower spatial accuracy of the CGNDB file.

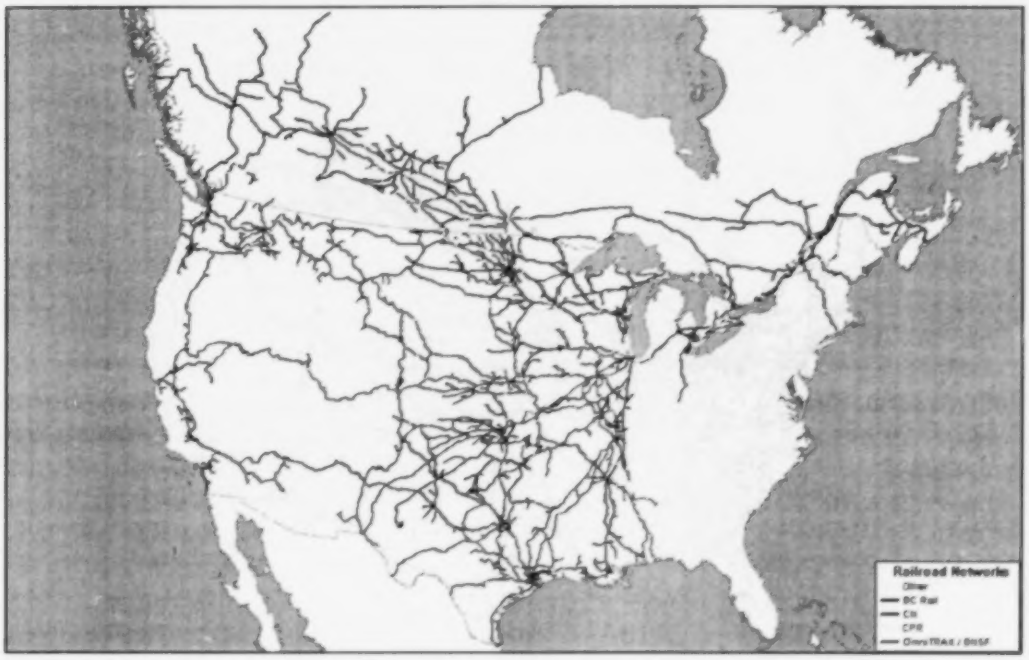
CRA manually edited the U.S. and Canadian rail networks at the U.S.-Canadian border to ensure that the networks were correctly joined. We inspected key junctions affecting BC Rail specifically to ensure proper rail ownership and trackage rights designations. Finally, CRA applied standard algorithms to convert the geographic network and attribute data into a form suitable for flowing freight traffic. These networks are shown in Figure 3 and represent ownership, trackage rights, and haulage rights.

[12] See URL: http://transtats.bts.gov/mappingcenter.asp.

[13] See URL: http://www.bts.gov/gis/ntatlas/can.html.

[14] See URL: http://geonames.nrcan.gc.ca/info/cgndb_e.php.

Figure 3—Map of North American Railroads Relevant to BC Rail Transaction



3.2.1.2 Rail Flow Analysis

BC Rail provided CRA with spreadsheets containing a summary of the 2002 traffic waybill data. The data fields provided in this database are listed in Table 3.

Table 3—BC Rail 2002 Traffic Database Field Descriptions

Data Field	Description
Cars	Number of railcars represented by the given record.
Commodity	Description of the commodity transported in the cars of the given record.
Consignee	Entity to which the cars were entrusted at the end of their rail journey.
Offline Destination	Name of the RR station where the cars terminated, in cases where cars terminated outside the BC Rail network. (In cases where the cars terminated on the BC Rail network, this field is blank.)
Offline Destination Region	State or province where the cars terminated, in cases where they terminated outside the BC Rail network. (In cases where the cars terminated on the BC Rail network, this field is blank.)
Offline Origin	Name of the RR station where the cars originated, in cases where they originated outside the BC Rail network. (In cases where the cars originated on the BC Rail network, this field is blank.)
Offline Origin Region	State or province where the cars originated, in cases where they originated outside the BC Rail network. (In cases where the cars originated on the BC Rail network, this field is blank.)
Online Destination	Name of the RR station where the cars terminated on the BC Rail network. If the cars terminated "offline," the name of the station where they left the BC Rail network is listed.
Online Origin	Name of the RR station where the cars originated on the BC Rail network; if the cars originated "offline," the name of the station where they first came onto the BC Rail network is listed.
Revenue	Total BC Rail revenue associated with the movement of the cars in the given record.
Route	Listing of all travelled RRs, in order, from origin to destination. In cases where cars switched from one RR to another, the abbreviation for the junction at which this occured (e.g., "PRGEO") is listed between the relevant RRs.
Shipper	Entity for which the cars were shipped.
STCC	7-digit code describing the commodity transported. The first (i.e., left-most) 2 digits represent one of 38 general commodity groups.

The majority of 2002 BC Rail freight traffic (60 percent) remained on the BC Rail network; 37 percent was forwarded to other railroads; and only three percent of traffic originated on a different railroad and terminated on BC Rail.[15]

[15] Total carload volume used to derive these percentages are shown later in Table 4.

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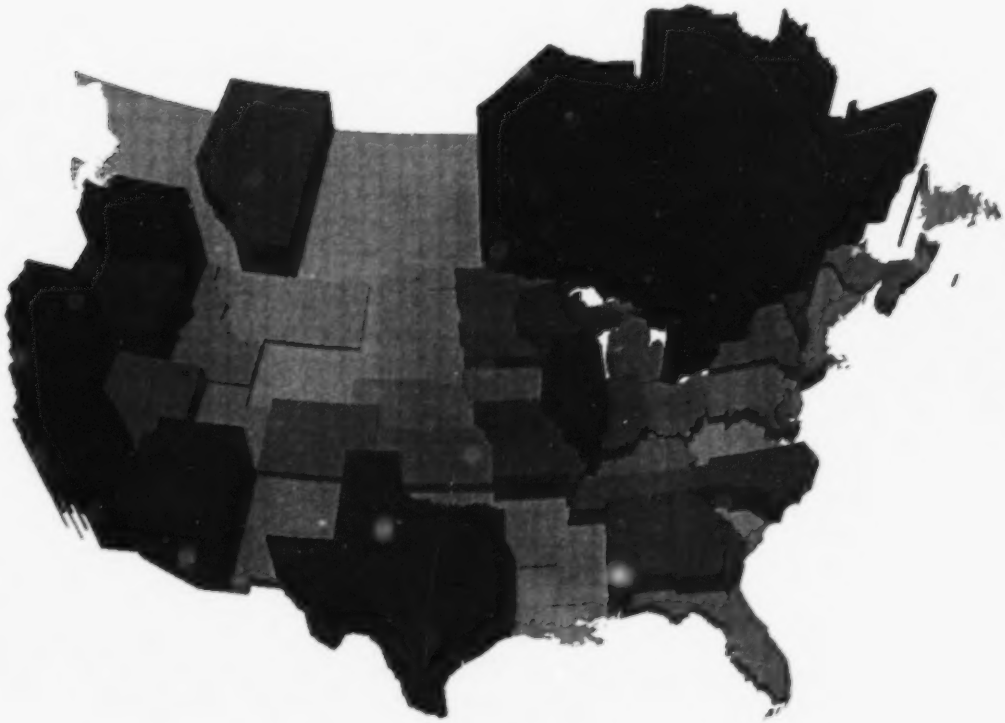
Figure 4—Relative Distribution of BC Rail Forwarded Traffic by Railroad Destination Province/State



3.2.1.3 Traffic Diversion

An acquiring railroad has a potential opportunity to capture additional traffic by diverting shipments from other carriers. If the new combined railroad has stations within a certain distance of the shipment's base case origin and/or destination, the acquiring railroad may be able to offer a price or service advantage to entice the shipper to divert traffic from the base case routing onto a routing that maximizes the use of the acquiring railroad's new, combined network.

CRA developed a series of rail competition matrices that quantify the BC Rail carload volume and revenue dollar value of traffic terminating in geographic markets that may be accessed by more than one railroad. For this exercise, we focused our analysis on freight originating in

British Columbia and terminating on another railroad. Although the United States does not have a regulatory parallel to the Canadian 30-kilometre interline switching rule,[16] we used the 30-kilometre definition to represent a reasonable sphere of competitive geography around a destination station.

Choosing a single definition to a sphere of competitive influence is not reasonable since the degree of competition varies with the distance of the alternative destination from the market as well as other factors such as route mileage and service levels. The Canadian Transportation Agency recognizes this variability by offering shippers with facilities outside of the 30-kilometre radius an opportunity to appeal the rule and have the interline switching agreement extended on an exception basis. Therefore, we developed competition matrices by tagging any BC Rail shipment with at least one other railroad offering service within 30 or 60 kilometres of the destination of that move.

Each origin and destination point in the flow file was evaluated using a Geographic Information System (GIS) tool and proximity calculators to determine whether the point could be served by BNSF,[17] CPRS, CN, or any other North American railroad (combined into the category OTHER).

The following tables summarize the results of the analysis. The first table shows the amount of BC Rail traffic originating and terminating by railroad company, using the actual 2002 data. Note that some flows use BC Rail as a bridge or overhead carrier such that BCOL (the waybill notation for BC Rail) is neither the originating or terminating carrier. These flows include 169 carloads moving over BC Rail from CN to CN, and another 6 carloads moving from CN to CP using BC Rail. The preponderance of the traffic either stays on the BCOL network or is forwarded to other carriers.

The next three tables each represent a different subset of traffic, depending on which of the three proponents is assumed to acquire the BC Rail operating concession. For example, the 2002 base case in Table 4 shows that 8,453 carloads of freight originated on BC Rail and terminated on the BNSF network. Table 5A shows that 939 of those 8,453 carloads terminate at stations that are located within 30km of a CN-served location. Table 5A also shows that 1,420 of the 8,453 carloads terminate at stations that are located within 60km of a CN-served location. Even as the successful proponent, it will not be possible for CN to divert the balance of the 7,033 cars away from BNSF in that CN does not have physical or economic access to

[16] National Transportation Act, 1987, subsection 152(3). See also Canadian Transportation Agency, Decision No 269-R-1988 (URL: http://www.cta-otc.gc.ca/rulings-decisions/decisions/1988/R/269-R-1988_e.html)

[17] For the purposes of this exercise, we used the BNSF network as the surrogate for the proponent OmniTRAX

those other geographic markets. Indeed, there is no assurance that the cars within 30km or 60km will switch from the BNSF network to the CN network, only that CN has the opportunity to compete more vigorously for that subset of traffic as a result of the BC Rail transaction. But, in traditional railroad mergers, the successful proponent often has been able to use a combination of price and single line service to entice much of the volume away from the status quo routes.[18]

Table 4—BC Rail 2002 Traffic by Origin and Destination Railroad

		Destination RR									
	(CADS in 000s)	BCOL		CN		CPR		OMNITRAX / BNSF		Other	
		Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue
Origin RR	BCOL	92,164	$136,304	31,732	$29,291	2,229	$3,900	8,453	$22,033	14,305	$30,393
	CN	4,579	$5,166	169	$156	6	$5				
	CPR	185	$293								
	OMNITRAX / BNSF	96	$137								
	Other	83	$206								

Table 5A—BC Rail 2002 Traffic Destined Within 30km and 60km of a CN Station

			Destination RR									
	(CADS in 000s)		BCOL		CN		CPR		OMNITRAX / BNSF		Other	
			Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue
Origin RR	BCOL	30km	70,565	$110,076	31,732	$29,291	1,743	$2,783	939	$2,630	936	$2,313
		60km	78,306	$124,722	31,732	$29,291	1,860	$3,076	1,420	$3,816	1,615	$3,131
	CN	30km	1,409	$1,665	169	$156	6	$5				
		60km	1,896	$2,138	169	$156	6	$5				
	CPR	30km	3	$2								
		60km	10	$6								
	OMNITRAX / BNSF	30km	2	$4								
		60km	75	$100								
	Other	30km	11	$35								
		60km	16	$70								

[18] In the selected proposal, CN agreed that aggregate rates to the Vancouver interchange would average seven percent less than the BC Rail base case, limiting its ability to use price as a lever to divert business from existing routes.

Table 5B—BC Rail 2002 Traffic Destined Within 30km and 60km of a CPR Station

		Destination RR									
(CADS in 000s)		BCOL		CN		CPR		OMNITRAX / BNSF		Other	
		Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue
Origin RR: BCOL	30km	42,855	$79,313	6,648	$9,605	2,229	$3,900	739	$2,026	730	$1,485
	60km	47,664	$89,309	7,629	$11,091	2,229	$3,900	1,253	$3,342	819	$1,640
Origin RR: CN	30km	1,191	$1,501	131	$138	6	$5				
	60km	1,671	$1,953	131	$138	6	$5				
Origin RR: CPR	30km										
	60km	6	$2								
Origin RR: OMNITRAX / BNSF	30km										
	60km	73	$96								
Origin RR: Other	30km										
	60km										

Table 5C—BC Rail 2002 Traffic Destined Within 30km and 60km of an OmniTRAX/BNSF Station

		Destination RR									
(CADS in 000s)		BCOL		CN		CPR		OMNITRAX / BNSF		Other	
		Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue
Origin RR: BCOL	30km	42,855	$79,313	2,221	$4,209	690	$1,674	8,453	$22,033	6,852	$16,705
	60km	47,468	$89,066	2,247	$4,248	756	$1,802	8,453	$22,033	7,232	$17,655
Origin RR: CN	30km	1,191	$1,501	87	$117						
	60km	1,669	$1,953	87	$117						
Origin RR: CPR	30km										
	60km	6	$2								
Origin RR: OMNITRAX / BNSF	30km										
	60km										
Origin RR: Other	30km										
	60km										

To determine which of the three proponents has the greatest opportunity to divert traffic through a merger with BC Rail, we simply sum the traffic originating on BC Rail and terminating on another railroad, as listed in Table 5A, Table 5B, and Table 5C, less the portion of that traffic already terminating on the selected proponent's railroad. The results are shown below in Table 6. The proponent that has the most potential to move traffic off of other companies' lines and onto its own is the OmniTRAX/BNSF. Table 5C shows that most of this traffic is currently moving via "Other," which, for the most part, is the Union Pacific Railroad. The proponent that has the least potential to divert traffic from another companies' lines is CN. Indeed, by choosing CN as the successful proponent, the Province not only has increased the competitiveness of the BC Rail freight that was already interchanged to the CN

those other geographic markets. Indeed, there is no assurance that the cars within 30km or 60km will switch from the BNSF network to the CN network, only that CN has the opportunity to compete more vigorously for that subset of traffic as a result of the BC Rail transaction. But, in traditional railroad mergers, the successful proponent often has been able to use a combination of price and single line service to entice much of the volume away from the status quo routes.[19]

Table 4—BC Rail 2002 Traffic by Origin and Destination Railroad

(CAD$ in 000s)		Destination RR									
		BCOL		CN		CPR		OMNITRAX / BNSF		Other	
		Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue
Origin RR	BCOL	92,164	$136,304	31,732	$29,291	2,229	$3,900	8,453	$22,033	14,305	$30,393
	CN	4,579	$5,166	169	$156	6	$5				
	CPR	185	$293								
	OMNITRAX / BNSF	96	$137								
	Other	83	$206								

Table 5A—BC Rail 2002 Traffic Destined Within 30km and 60km of a CN Station

(CAD$ in 000s)			Destination RR									
			BCOL		CN		CPR		OMNITRAX / BNSF		Other	
			Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue
Origin RR	BCOL	30km	70,565	$110,076	31,732	$29,291	1,743	$2,783	939	$2,639	936	$2,313
		60km	78,306	$124,722	31,732	$29,291	1,860	$3,076	1,420	$3,816	1,615	$3,131
	CN	30km	1,409	$1,665	169	$156	6	$5				
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	CPR	30km	3	$2								
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		60km	75	$100								
	Other	30km	11	$35								
		60km	16	$70								

[19] In the selected proposal, CN agreed that aggregate rates to the Vancouver interchange would average seven percent less than the BC Rail base case, limiting its ability to use price as a lever to divert business from existing routes.

Table 5B–BC Rail 2002 Traffic Destined Within 30km and 60km of a CPR Station

(CADS in 000s)		Destination RR									
		BCOL		CN		CPR		OMNITRAX / BNSF		Other	
Origin RR		Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue
BCOL	30km	42,855	$79,313	6,648	$9,605	2,229	$3,900	739	$2,026	730	$1,485
	60km	47,664	$89,309	7,629	$11,091	2,229	$3,900	1,253	$3,342	819	$1,640
CN	30km	1,191	$1,501	131	$138	6	$5				
	60km	1,671	$1,963	131	$138	6	$5				
CPR	30km										
	60km	6	$2								
OMNITRAX / BNSF	30km										
	60km	73	$96								
Other	30km										
	60km										

Table 5C–BC Rail 2002 Traffic Destined Within 30km and 60km of an OmniTRAX/BNSF Station

(CADS in 000s)		Destination RR									
		BCOL		CN		CPR		OMNITRAX / BNSF		Other	
Origin RR		Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue	Carloads	Revenue
BCOL	30km	42,855	$79,313	2,221	$4,209	690	$1,674	8,453	$22,033	6,852	$16,705
	60km	47,468	$89,066	2,247	$4,248	756	$1,802	8,453	$22,033	7,232	$17,655
CN	30km	1,191	$1,501	87	$117						
	60km	1,669	$1,953	87	$117						
CPR	30km										
	60km	6	$2								
OMNITRAX / BNSF	30km										
	60km										
Other	30km										
	60km										

To determine which of the three proponents has the greatest opportunity to divert traffic through a merger with BC Rail, we simply sum the traffic originating on BC Rail and terminating on another railroad, as listed in Table 5A, Table 5B, and Table 5C, less the portion of that traffic already terminating on the selected proponent's railroad. The results are shown below in Table 6. The proponent that has the most potential to move traffic off of other companies' lines and onto its own is the OmniTRAX/BNSF. Table 5C shows that most of this traffic is currently moving via "Other," which, for the most part, is the Union Pacific Railroad. The proponent that has the least potential to divert traffic from another companies' lines is CN. Indeed, by choosing CN as the successful proponent, the Province not only has increased the competitiveness of the BC Rail freight that was already interchanged to the CN

network, but also has preserved competition to the very large markets served by both UP and BNSF.

Table 6—Maximum Diversion Potential for Each BC Rail Proponent Based on Destination Proximity to Competitors

(CAD$ in 000s)			Maximum Diversion Potential	
			Cars	Revenue
Proponent	CN	30km	3,618	$7,726
		60km	4,895	$10,023
	CPR	30km	8,117	$13,117
		60km	9,701	$16,073
	OMNITRAX / BNSF	30km	9,763	$22,588
		60km	10,235	$23,706

3.2.1.4 Operational Efficiency

An acquiring railroad has the opportunity to achieve increased operating efficiency for movements that previously traversed both of the railroads that are to be combined. In some cases, these movements might originally have been routed circuitously so as to achieve the financial objectives of the originating carrier. After the acquisition, there is no incentive for such behaviour.

In other cases, traffic currently may be using a competing company's network, but the new single line efficiencies are sufficient to entice the shipper to change routes.

The BC Rail network configuration is such that traffic originating in Prince George and destined to the east and southeast can be routed via the CN mainline to Edmonton, Chicago, and beyond, or routed to Vancouver and beyond. Prior to the BC Rail transaction, BC Rail was motivated to move cars to Vancouver to maximize car miles[19] on the BC Rail network and at the same time maximize its portion of the revenue division. Once BC Rail is integrated with CN, the motivation to move cars in a circuitous path via Vancouver will not exist. However, if either of the other proponents had acquired BC Rail, the motivation to route cars via Vancouver would have increased.

[19] It is an industry standard for North American railroads to measure traffic in car miles as opposed to car kilometres.

On very long trips, the incremental car miles[20] using routes via Vancouver versus Prince George are relatively small. However, on some moves, the longer route via Vancouver may exceed the distance of the shorter route via Prince George by more than five percent. We assume that differences in route length within plus or minus five percent of the base case would not significantly affect the competitiveness of the traffic vis-à-vis suppliers from outside British Columbia.

We applied our railroad network diversion model to simulate the probable changes in traffic flows for scenarios representing each of the three proponents. The network flow model utilizes a composite station-junction-link network to route all reported freight movements according to CRA's network flow algorithms. In each case, some traffic will show improvement and some traffic will be disadvantaged versus the base case. Table 7 summarizes each of the scenarios.

Table 7—Summary of Potential Change in Car Miles[21] by Acquisition Scenario

				Estimated Change in Car Miles					
		Estimated 2002 Car Miles (000s)	% Change from No Transaction Scenario	Improves > 5%		Change < 5%		Worsens > 5%	
Scenario	2002 Cars Routed			Cars	O-D Pairs	Cars	O-D Pairs	Cars	O-D Pairs
No Transaction	155,937	126,378	-	-	-	-	-	-	-
CN Option	155,937	125,282	-0.9%	3,536	409	151,940	2,821	461	95
CPR Option	155,937	131,394	4.0%	17	6	144,613	1,852	11,307	1,472
OmniTRAX/BNSF Option	155,937	130,306	3.1%	19	4	148,319	2,252	7,599	1,074

The table shows that as a result of the CN acquisition, 3,536 cars per year likely will experience significantly shorter routes, translating into significant cost reductions and service improvements. On the other hand, 461 cars per year may experience longer routings and related cost increases and service deterioration. Note that this model does not reflect the impact of the seven percent average rate reduction on traffic moving to Vancouver, committed to by CN as part of the transaction. The seven percent rate reduction agreement will significantly reduce the 461 cars that otherwise may have been subjected to reduced competition. The results of the other scenarios reflect the potential for both CPR and OmniTRAX/BNSF to induce traffic to move via the Vancouver gateway. The associated

[20] Ibid.

[21] Ibid.

network, but also has preserved competition to the very large markets served by both UP and BNSF.

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3.2.1.4 Operational Efficiency

An acquiring railroad has the opportunity to achieve increased operating efficiency for movements that previously traversed both of the railroads that are to be combined. In some cases, these movements might originally have been routed circuitously so as to achieve the financial objectives of the originating carrier. After the acquisition, there is no incentive for such behaviour.

In other cases, traffic currently may be using a competing company's network, but the new single line efficiencies are sufficient to entice the shipper to change routes.

The BC Rail network configuration is such that traffic originating in Prince George and destined to the east and southeast can be routed via the CN mainline to Edmonton, Chicago, and beyond, or routed to Vancouver and beyond. Prior to the BC Rail transaction, BC Rail was motivated to move cars to Vancouver to maximize car miles[7] on the BC Rail network and at the same time maximize its portion of the revenue division. Once BC Rail is integrated with CN, the motivation to move cars in a circuitous path via Vancouver will not exist. However, if either of the other proponents had acquired BC Rail, the motivation to route cars via Vancouver would have increased.

[7] It is an industry standard for North American railroads to measure traffic in car miles as opposed to car kilometres.

On very long trips, the incremental car miles[20] using routes via Vancouver versus Prince George are relatively small. However, on some moves, the longer route via Vancouver may exceed the distance of the shorter route via Prince George by more than five percent. We assume that differences in route length within plus or minus five percent of the base case would not significantly affect the competitiveness of the traffic vis-à-vis suppliers from outside British Columbia.

We applied our railroad network diversion model to simulate the probable changes in traffic flows for scenarios representing each of the three proponents. The network flow model utilizes a composite station-junction-link network to route all reported freight movements according to CRA's network flow algorithms. In each case, some traffic will show improvement and some traffic will be disadvantaged versus the base case. Table 7 summarizes each of the scenarios.

Table 7—Summary of Potential Change in Car Miles[21] by Acquisition Scenario

Scenario	2002 Cars Routed	Estimated 2002 Car Miles (000s)	% Change from No Transaction Scenario	Estimated Change in Car Miles: Improves > 5% Cars	Improves > 5% O-D Pairs	Change < 5% Cars	Change < 5% O-D Pairs	Worsens > 5% Cars	Worsens > 5% O-D Pairs
No Transaction	155,937	126,378	-	-	-	-	-	-	-
CN Option	155,937	125,282	-0.9%	3,536	409	151,940	2,821	461	95
CPR Option	155,937	131,394	4.0%	17	6	144,613	1,852	11,307	1,472
OmniTRAX/BNSF Option	155,937	130,306	3.1%	19	4	148,319	2,252	7,599	1,074

The table shows that as a result of the CN acquisition, 3,536 cars per year likely will experience significantly shorter routes, translating into significant cost reductions and service improvements. On the other hand, 461 cars per year may experience longer routings and related cost increases and service deterioration. Note that this model does not reflect the impact of the seven percent average rate reduction on traffic moving to Vancouver, committed to by CN as part of the transaction. The seven percent rate reduction agreement will significantly reduce the 461 cars that otherwise may have been subjected to reduced competition. The results of the other scenarios reflect the potential for both CPR and OmniTRAX/BNSF to induce traffic to move via the Vancouver gateway. The associated

[20] Ibid.

[21] Ibid.

increase in cost and the associated deterioration in service could have had negative effects on the competitiveness of some British Columbia products in the North American marketplace.

3.2.2 Shipper Concerns and How the Acquiring CN Proposal Addresses Them

The Province engaged two advisors who specialize in railroad competition and economics: John Edsforth and Allan Foran. The advisors met with shippers to assess their concerns regarding the competitive implications of the potential transaction, and produced a report documenting these concerns, which included:

- A preference for federal regulation under the Canada Transportation Act (CTA) rather than provincial regulation
- Concerns about potential loss of competition and its implications for rates and service levels
- Concerns about car supply
- Concerns about maintenance of the entire BC Railway network

In this section, we discuss how the CN proposal addresses the first three of these concerns. The section of this chapter dealing with sustainability addresses the network maintenance issue.

3.2.2.1 Federal Regulations Preferred by Shippers

The interviews and analysis conducted by Messrs. Edsforth and Foran concluded that nearly all of the shippers viewed the prospect of federal regulatory oversight of BC Rail as preferable to, or at least as good as, the status quo of provincial regulatory oversight. The CTA's provisions that provide opportunities for shippers to appeal rates, plead service issues, and bring allegations of unequal treatment by railroad companies should provide shippers with regulatory avenues for dispute resolution that they do not currently enjoy and would not enjoy unless a federally regulated railroad obtained the operating concession for BC Rail.[22] CRA's interviews with shippers confirmed these findings. Under CN control, BC Rail customers will have recourse to federal regulatory oversight.

[22] Canada Transportation Act, 1996, c. 10. Paragraphs 3 and 5(g).

3.2.2.2 Improved Service

CN's rail network extends into the south-eastern United States, a geographic area to which many industries are relocating to be closer to growing population centres. This direct access to major U.S. markets underscores CN's ability to improve service vis-à-vis the status quo and the other proponents, either of whom would have required at least one en route interchange to access these important southern U.S. markets.

As part of the BC Rail restructuring, CN has chosen to make Prince George a regional office. By positioning key operations and sales functions at Prince George, shippers will have direct local access to railroad decision makers. This local presence will improve customer service and increase the railroad's sensitivity to shipper needs.

CN intends to consolidate all of its former and newly acquired Prince George activities into the BC Rail yard. By increasing the density of operations, CN will gain economies of scale and be able to build bypass blocks of cars to more interior points on its network. Conventional industry wisdom holds that railroad mergers typically improve transit time 12 to 24 hours by eliminating both physical and paper interchanges. In addition to the improved transit time, each intermediate handling that is eliminated will significantly improve the transit time variability and on-time performance reliability.

3.2.2.3 Competitive Rates

To address concerns that it might use its control of BC Rail operations to disadvantage potential interline shippers, CN has offered "open gateway" provisions to govern pricing and service levels for traffic exchanged with other carriers at North Vancouver. CN has committed to charging initial open gateway rates for interline moves that it asserts will be seven percent lower on average than those currently charged by BC Rail. Future changes in these rates will be attributed to the rail cost adjustment factor (RCAF).[23] CN also has committed to maintaining service levels and providing adequate car supply to maintain the viability of competitive routings via the North Vancouver gateway.

In principle, CN's open gateway commitments should assure benefits to BC Rail shippers currently shipping products via the North Vancouver gateway. Those who continue to use

[23] The RCAF is a quarterly measure of the rate of inflation for railroad inputs, such as labor and fuel. The adjustment factor was originally created for regulatory reasons and is governed by the Surface Transportation Board (STB), although it is calculated by the Association of American Railroads (AAR). The "adjusted" RCAF includes productivity improvements.

carriers other than CN for transportation beyond North Vancouver will see an average rate reduction of seven percent for the BC Rail portion of the move, and the maintenance of this competitive alternative will compel CN to continue to compete for traffic currently travelling offline via CN's Prince George and North Vancouver gateways.

After CN attains control of BC Rail's operation, federal regulation also should provide additional protection to any captive customers of BC Rail located within 30km of the North Vancouver interchange, who can request inter-switching with another federally regulated carrier at rates prescribed by regulation.

Our analysis suggests that the Province is correct in viewing the CN proposal as one that will offer BC Rail customers service that is as good as or better than the status quo at rates that are lower than those that would be offered by an independent BC Rail. However, the prospect of Competition Bureau oversight of the proposed transaction should offer shippers comfort that the full competitive implications of the proposed transaction including any additional issues arising from CN's post-acquisition exercise of its potentially increased market power will be the subject of a thorough review by experienced federal competition authorities.[24]

3.2.2.4 Improved Car Supply

CN has committed to increasing car supply. It has committed to acquiring 600 new lumber centrebeam cars to handle traffic currently carried by truck and to upgrading an additional 1,500 cars. In addition, CN anticipates that it will be able to make available an additional 800 cars through post-acquisition improvements in service delivery and the integration of the BC Rail and CN car fleets. The 800-car estimate is consistent with fleet size adjustments that have been realized as a result of the recent U.S. railroad mergers (once fluid operations were attained in the aftermath of network slowdowns related to integration implementation). These initiatives should certainly represent an improvement on the status quo. Moreover, these are larger benefits than any other potential acquirer would be likely to deliver, given CN's larger initial fleet of cars, historical record of good service, and larger opportunities for post-acquisition operating synergies.

[24] CN notes that its open gateway proposal builds on the experience it encountered in designing a similar proposal for its proposed acquisition of the Ontario Northland Railway (ONR). CN claims that that proposal was thoroughly reviewed by the Competition Bureau, and that the BC Rail open gateway proposal addresses issues raised by the Competition Bureau regarding the proposed ONR transaction.

3.3 GROWTH OPPORTUNITIES

The RFP stated that "proposals must accommodate access to the railway line for third-party passenger rail services on reasonable economic terms and identify any new opportunities for freight rail services." Below, we assess how the CN proposal addresses these concerns.

3.3.1 PASSENGER SERVICE

The CN proposal accommodates the limited existing passenger services on BC Rail lines (the D'Arcy-Lillooet and Takla shuttles). CN agreed to support and promote a competitive bidding process to identify third-party passenger train operators interested in providing passenger services on the BC rail network. Accordingly, CN and BC Rail released on December 5 a "Request for Proposals to Operate Third-Party Passenger Tourist Trains on BC Rail and CN in British Columbia." The passenger services are to include tourist routes between North Vancouver and Prince George, and on all or some of CN's network between Prince Rupert, Prince George, and Jasper.. Some of the considerations in selecting the appropriate operator include the economic development of communities on the BC Rail/CN network and the creation of railway and associated jobs. On the whole, the CN proposal represents an improvement over the status quo in terms of opportunities for passenger service.

3.3.2 NEW OPPORTUNITIES FOR FREIGHT RAIL SERVICE

As described in the discussion on competitiveness, the CN acquisition will improve access to markets with better service and lower prices to shippers.

3.3.2.1 Expedited Service to U.S. Markets

CN has significantly shorter routes from Prince George to U.S. markets. The bypass blocks out of Prince George will enable CN to operate a new, direct service to Chicago, the busiest rail hub in the world. These improvements will enable British Columbia resource industries and shippers to access new markets efficiently in the United States as a result of reduced logistics costs.

3.3.2.2 Prince Rupert

Grain and forest products moving through British Columbia should benefit from a more modern and efficient port at Prince Rupert. Moving freight directly from the northern part of

the province to Prince Rupert should be much quicker than under than the status quo with freight currently needing to be interchanged at Prince George (which entails moving the railcars east to catch westbound CN trains) or having to travel the extra distance to the Port of Vancouver.

3.3.2.3 Intermodal Service

CN, as the new operator, has a much better chance of making intermodal a viable transportation option within British Columbia than did BC Rail as the operator. Unlike BC Rail's former operation, CN will employ the most modern intermodal flatcar designs, terminal designs, and lift technology. CN will be able to take advantage of its existing intermodal management and marketing expertise. CN has a core intermodal network, which will now include a revitalized container port operation at Prince Rupert. There is reason to be optimistic that CN will introduce a profitable intermodal product on the BC Rail network.

3.3.2.4 Petrochemicals

Figure 5 shows the dramatic increase in British Columbia's petrochemicals industry over the last 12 years. While much of the transportation of petrochemical products will continue to utilize pipelines, railroads offer competitive transportation services for boutique products and for movement of products to locations not accessed by the pipeline network. In addition, during peak loading times when the pipelines are capacity-constrained, the railroad network offers an alternative. An example of this type of railroad integration is found in the Texas petrochemicals industry.

Figure 5—Graph of British Columbia Production of Non-Forest Products

Source: Table 13

3.3.2.5 Truck Diversion

CN's plans for BC Rail apparently are built on the premise that it can successfully divert traffic now carried entirely by truck, or by truck to reload centres maintained by competing railroads. This expected increase in demand, for example, underlies CN's commitment to purchase 600 new centrebeam cars. Through integrating BC Rail into the CN network, CN can expect to obtain post-acquisition synergies in the form of lower costs and faster transit times. These synergies make plans for truck diversion a plausible strategy—better service and lower costs will make rail more attractive for some moves now carried by truck. As a result of better carload service and the potential for efficient intermodal operations, we would expect a significant diversion of freight from highway to rail as a result of the BC Rail transaction.

3.4 COMMUNITY-SPECIFIC ISSUES

The RFP required proponents for the BC rail operating concession to demonstrate how they would benefit key groups, such as BC Rail employees, communities, and First Nations. We assess the effects of the CN proposal on these three key stakeholder groups in turn.

3.4.1 BC RAIL EMPLOYEES

Throughout the BC Rail transaction process, the media, the public, the unions, and the communities continued to highlight the issue of potential BC Rail employee job loss. The final agreement does not appear to affect employment nearly as much as these stakeholders may have anticipated. The majority of the media reports cited information from the leaked, BC Rail management internal report. Articles and reports suggested that 50 to 70 percent of BC Rail employees would lose their jobs or as many as 1,200 people would be displaced.

However, CN has made a focused effort to minimize job loss and ease the transition for as many employees as possible. CN's commitment is that no union employee will lose his or her job during the first year of the integration.

The transaction reduces 430 jobs over a three year transition period. Of the 430 jobs eliminated, 250 are voluntary early retirements and 180 are involuntary severances. It is important to differentiate between the positions that will be eliminated as part of the transaction and the people that will be displaced or affected. For example, between June 2003 and September 2003, natural attrition reduced the total BC Rail workforce by 27 employees. While these 27 vacancies may be eliminated as part of the integration reorganization, the elimination does not affect current BC Rail employees.

3.4.1.1 BC Rail Job Loss versus Status Quo Forecast

It is important to view the projected changes in employment within the context of what would have happened if BC Rail operations had continued to be managed within the Crown Corporation. There is no reason to believe that current employment levels would have been maintained. In fact, BC Rail management would have continued its own efforts to streamline costs, introduce new technology, and manage efficiencies.

BC Rail management had already planned to close the Squamish wheel shop, probably eliminating about 70 positions. BC Rail management recently signed a new, three-year contract with the unions extending the two-person train crew agreement to the entire system,

eliminating a number of train and engine crew employees. BC Rail management would have continued to improve safety, streamline headquarters operations, explore outsourcing opportunities, and implement productivity improving technologies such as beltpack, heavier cars, and modern track components.

With CN as an operating partner, displaced BC Rail workers will have a chance to relocate to other railroad jobs on the CN system, presumably with the support of corporate relocation packages in cases where the transfer involves a geographic change. The status quo would not have provided a formal opportunity for displaced workers to transfer within the same company. In many cases, BC Rail employees do have specialized skills that will ease their transition to other industries and to other jobs within the rail industry. Many of the headquarters, non-union staff located in North Vancouver have university degrees and professional resumes. Many of the shop workers have technical skills that will make them more attractive to other heavy industries. Indeed, the unions representing some of the labourers have local affiliates in the steel industry and in the auto industry. The labour organizations doubtless will aid their membership by utilizing these connections and easing the job transition.

3.4.1.2 Executive Severance Agreements

Seven of the BC Rail employees included in the headcount discussion above are senior executives of BC Rail or its affiliates and as such, have employment contracts that include terms of severance under a variety of potential circumstances including the material change of control of BC Rail operations. CRA has reviewed each of these contracts and makes the following observations:

- The terms of these contracts are typical of other executive employment contracts that we are aware of in the railroad industry.
- The terms of these contracts did not motivate the executives to privatize, sell, or otherwise restructure BC Rail. In fact, the executives may have reduced their severance compensation by helping the Province expedite the transaction.
- The executives' compensation is not tied to the final sale price, the identity of the successful proponent, or the structural nature of the transaction.

The final transaction agreement with CN includes executive employee payouts for six of the seven BC Rail executives referenced above, and for one additional executive, under terms that include entitlements for severance, change of control, and retention.

3.4.2 Communities

The proposed transaction will affect BC Rail communities in several ways. Most obviously, communities will be affected directly by the changes in local employment resulting from the adjustments in BC Rail and CN staffing that will accompany the reorganization and rationalization of the combined rail network. In this section, we will review the direct employment effects, discussed in general terms above, with respect to particular communities. Other features of the proposed transaction should deliver benefits to BC Rail communities that in the long run should provide significant economic benefits. These include positive effects on private sector employment that will occur if BC Rail customers are able to expand their businesses as a result of access to lower cost and higher quality rail transportation, employment effects from the planned redevelopment of the port of Prince Rupert, and any additional economic development that is created by the $135 million Northern Development Initiative the Province intends to fund with proceeds from the partnership.

3.4.2.1 Taxes versus Grants in Lieu

Under provincial ownership, BC Rail is exempt from local property taxes, although it currently pays local communities $1.8 million as grants in lieu of taxes. The Province forecasts that beginning in the year the partnership is completed CN will pay $8.3 million in full property taxes, based on current assessment values.

3.4.2.2 Changes in Private Sector Employment

The long-run economic interests of the BC Rail communities, including prospects for future employment, will be served by the partnership with CN to the extent the partnership creates a business environment conducive to investment and the expansion of economic activity. The current proposal is likely to advance the creation of such an environment in two ways. First, it is reasonable to anticipate that lower rail rates and improved service will result in more employment by BC Rail shippers. Second, the partnership will provide the Province with funds for use by BC Rail communities to fund economic development initiatives that can make those communities more attractive places for business.

The improved service and lower rates that should accompany the partnership should allow shippers in BC Rail communities to compete for customers over a wider geographic range and to expand output, creating additional manufacturing jobs in the process. In its proposal to the Province, CN provided a preliminary estimate suggesting that the employment benefits created by lower rates could be significant. The analysis, prepared by a transportation economist with extensive experience in railroad economics and with the British Columbia economy, estimated that a five percent reduction in rail rates for the BC Rail portion of interline hauls could create 165 incremental jobs directly in forest product industries and 560 incremental jobs in total. While such numbers are difficult to estimate with precision, our understanding of the data sources and methodology used to estimate these effects leads us to believe that these estimates are credible, and, indeed, are likely to be conservative.

The research, conducted for CN by Dr. Michael Tretheway of InterVISTAS Consulting Inc., first estimated the reduction in total delivered costs for British Columbia forest products resulting from a five percent reduction in the BC Rail-specific portion of transportation costs. Dr. Tretheway then used this cost reduction with an estimate of the price sensitivity of demand for British Columbia forest products derived from published literature to estimate the likely effects of the rate reduction on increasing the demand for forest products now transported via BC Rail. The output effect was translated to direct job creation estimates using employment/output ratios derived from input/output models of the British Columbia economy, and these direct jobs were associated with indirect job gains using multipliers consistent with those found in the published literature.[25]

The job gains initially cited by CN appear to be conservative in that the analysis pertains to only a five percent reduction in rail rates for "open gateway" service to North Vancouver. Capturing the effect of the larger seven percent rate reduction actually offered by CN for open gateway service and accounting for jobs created by service quality improvements or potentially larger rate reductions offered by CN to induce customers to choose all-CN routings would increase estimates of both direct and indirect incremental jobs likely to be created by the BC Rail/CN partnership.

In addition to the jobs created directly and indirectly by improvements in freight and passenger services, BC Rail communities may receive benefits in the form of increased economic activity and employment from the decision of the Province to invest $135 million of the proceeds realized from the partnership with CN in the Northern Development Initiative. The Province views the Initiative as a means to support investments in forestry, pine beetle recovery,

[25] Conversation with Dr. Michael Tretheway, December 3, 2003.

transportation, tourism, mining, Olympic opportunities, small business and sustainable economic development. Using such funds to complement private investment by, for example, creating and expanding necessary infrastructure, is likely to result in sustainable job creation.

3.4.2.3 Review of Specific Communities

3.4.2.3.1 Squamish

CN will close the BC Rail locomotive shop in Squamish and move this activity to Vancouver and Prince George. It is important to note that BC Rail management had scheduled a similar strategic move in 2004, in the absence of the BC Rail transaction. This decision reflects underlying productivity trends in the railroad industry. The entire North American railroad industry has been eliminating excess shop capacity over the last twenty years as locomotives become more efficient and reliable and as automation and electronics eliminate the requirement for much of the labour-intensive electrical and fine machine work that was once required in locomotive maintenance. We have inspected the Prince George shop facilities and agree that this move is feasible.

3.4.2.3.2 Prince George

CN intends to designate the Prince George facilities as a "system shop." CN intends to centre a new wheel shop at Prince George and internalize activity that is currently contracted out to U.S. suppliers. Upgrades to the facilities will be required and this investment will create economic activity to help support the transition. CN already has committed to investing $1 million in the Prince George shop and more investment very well could be forthcoming as management gains an appreciation for the condition and potential of the facilities.

With CN reducing operations in its existing Prince George rail yard, there are opportunities to use that land to help support other city objectives. Surplus rail yard land will be available for commercial development in the downtown core. CN wants to donate part of its current rail yard to the city for expansion of Cottonwood Park.

3.4.2.3.3 Prince Rupert

The cessation of coal exports from the northern British Columbia mines significantly reduced the activity at the Port of Prince Rupert. However, as the success at Vancouver port has

shown, western Canadian ports are able to compete effectively with U.S. alternatives. The Port of Prince Rupert is a natural adjunct to Vancouver and has direct rail connection to the CN transcontinental rail network. The Province has committed to providing over $17 million to the Prince Rupert Port Authority to support development of a container terminal facility, while CN has agreed to invest up to $15 million to construct tracks and increase clearances for double-stack container operations. The port redevelopment, by some estimates, may create up to 500 direct jobs in the northwest region.

3.4.3 First Nations

It is the view of the Province that because the Crown will maintain ownership of all rights-of-way, rail bed, and tracks, First Nations' interests vis-à-vis the Province's interests regarding the continued presence of the railroad will not be materially affected by the proposed transaction. The Province did, however, seek to ensure that the proponents, as the ongoing operators of rail service, maintained existing BC Rail commitments addressing First Nations' concerns. As detailed below, CN has agreed to retain existing BC Rail programs addressing aboriginal issues, thus maintaining the status quo between First Nations and BC Rail with respect to railroad operations. In conjunction with the transaction, a $15 million BC Rail First Nations Benefits Trust will be established to support economic development, educational advancement, and cultural renewal for the 25 First Nations along the BC Rail corridor. In addition, the Province has indicated its willingness to negotiate transfers of non-railway related land owned by BC Rail's real estate subsidiary to First Nations, as well as to communities and tenants that have expressed an interest in these lands.

3.4.3.1 BC Rail Historical Relationships Maintained

CN will maintain BC Rail's current aboriginal affairs initiatives and continue, where agreeable with First Nations, the current Aboriginal Affairs Protocol.

3.4.3.2 Passenger Access

All proponents were asked to address the issue of the D'Arcy to Lillooet Shuttle. CN proposed to preserve the existing shuttle service on current terms, a feature of its proposal that is at least equivalent to the features of other proponents' proposals. Similarly, CN proposed to preserve the Takla shuttle. CN has agreed to a contractual commitment preserving these services.

3.4.4 Olympics 2010

While not specifically mention in the initial RFP, all proponents were asked to address how their proposal would accommodate existing plans to utilize BC Rail right of way to accommodate the transportation needs of the 2010 Olympic Games.

CN has agreed to work with the Province to facilitate the upgrading of the Sea-to-Sky Highway and ensure rail alternatives for a successful 2010 Olympics. CN will honour existing BC Rail and CN agreements to divert freight traffic to the existing north-south CN mainline from the BC Rail corridor during the Olympics as well as to undertake diversions as needed to facilitate highway construction. In addition, the outstanding RFP for passenger service operations discussed in section 3.3.1 specifically calls for the improvement of rail access to Olympic facilities in Whistler. It will be easier to implement and coordinate these improvements and diversions with both the BC Rail and CN corridors under common financial and operational control.

3.5 SUSTAINABILITY

The Province stipulated that proposals must promote a robust and well-maintained transportation infrastructure, which supports the long-term economic development and diversification of communities throughout British Columbia.

3.5.1 Long-Term Investment

CN is well poised to maintain and upgrade BC Rail infrastructure, rolling stock, and locomotives. During its most recently reported quarter, CN had $130 million available in cash and BBB+/BBB(high) credit ratings, giving the company access to billions of dollars of capital.[26]

CN is a much larger company than BC Rail and will be able to leverage its size in negotiating better prices when it purchases track materials, rail cars, locomotives, and outside services. CN can build on its core investment of modern technology and incrementally justify upgrading the BC Rail territory. For example, while BC Rail may not have been able to justify the upgrades

[26] S&P and DBRS credit ratings. See URLs:
- http://www.cn.ca/PDF/2003Factbook.pdf. (2003 CN Investor Fact Book)
- http://www.dbrs.com/web/sentry?COMP=1400&DocId=131860.

necessary to handle 286,000 pound gross car weights, CN has already invested money in its core network to handle these heavier cars. The benefits stream attached to incrementally upgrading BC Rail routes includes the operational cost savings of moving the heavier cars over the entire CN system.

3.5.2 Route Structure

3.5.2.1 Commitment to Maintain Current Routes

CN will maintain existing BC Rail routes in its agreement to a moratorium on any operational discontinuance for at least five years. CN also will keep intact the track to Tumbler Ridge, which BC Rail planned to dismantle. Finally, CN has committed to re-opening the Dawson Creek-to-Hythe line and to investing in the track, should traffic increase on this subdivision in the future. Over at least the next five years, therefore, the CN proposal provides equivalent or greater protection of the BC Rail route infrastructure than would occur if operational control of the railroad remained with the Province.

Over the longer term, any decision by CN to discontinue routes will be subject to potential federal review under the provisions of the Canada Transportation Act. This avenue for appeal would not be available if operational control of the railroad were to remain with BC Rail.

3.5.2.2 Synergies with Existing CN Network

After integration, CN will have two alternative routes between Prince George and Vancouver: the former BC Rail mainline and the longer CN line via Kamloops. Some stakeholders fear that CN will be motivated to reduce their fixed costs by abandoning a portion of the former BC Rail line and moving all of the freight via Kamloops. While this concern is understandable, synergies between the BC Rail and CN networks and other agreements may mitigate this concern.

First, CN has agreed to maintain and operate the entire BC Rail route structure for at least five years. Second, if the economics of abandoning portions of the BC Rail mainline were very compelling, it is likely that BC Rail in the status quo scenario or another proponent would have eventually negotiated access rights on the CN line via Kamloops.[27] A final argument is that

[27] Such asset sharing arrangements have become much more prevalent in North America. Examples include the CN/CPR sharing agreement between Kamloops and Vancouver, the UP/BNSF I5 arrangement, the NS/CSX agreement north out of Cincinnati, and the UP/CSX south out of Chicago.

CN may well view the route duplication as a strategic necessity. Having both routes available enables coordination of operations across a larger network. Shippers have asked BC Rail to operate more than three trains per day, which BC Rail on its own could never justify.[28] However, CN can coordinate the flows and accommodate this growth on its existing infrastructure. Another coordination opportunity that CN likely will explore is one-way running. One-way running would enable CN to operate northbound empty trains over the more rigorous BC Rail geography while operating southbound loaded trains on the relatively flatter, straighter CN route. Of course, the economics of this scenario involve a number of tradeoffs such as crew balancing, incremental car kilometres, and fuel consumption. Detailed economic analysis would be required to determine if one-way running is an economically viable strategy. CN simply may value having the additional route option for temporary use as surge capacity to accommodate spikes in traffic demand or as contingency capacity in response to natural disasters or derailments.

3.6 CONCLUSIONS REGARDING STRATEGIC VALUE

On the whole, the proposed partnership between CN and BC Rail should advance the strategic objectives of the Province. The transaction should increase the competitiveness of BC Rail shippers. Shippers should benefit from improved service, generally lower rates, and, in the event of disputes, recourse according to the provisions of the CTA.

With respect to growth opportunities, a partnership of CN and BC Rail is likely to create operational synergies that will fuel the growth of freight service and help divert traffic from road to rail. CN and BC Rail are also actively pursuing the selection of an operator for passenger services on the combined network. CN's commitments to maintain the existing rail network for at least five years, to re-open the Dawson Creek-to-Hythe branch, and to support construction of the Sea-to-Sky highway, along with its ability to fund sustained investment in BC Rail operations suggest that the partnership is likely to advance the Province's goal of sustainability by promoting a robust and well-maintained transportation infrastructure.

With respect to community-specific issues, we recognize that the proposed partnership unavoidably will create both winners and losers in the short run. Notably, the creation of the partnership will include the loss of jobs at BC Rail, although CN and the Province have taken steps to minimize involuntary job losses and to provide alternative jobs with CN for many employees that will not be needed for BC Rail operations after new operations commence.

[28] Interviews with J. Edsforth, A. Foran, and BC Rail management, October-November 2003.

Moreover, we believe that these job losses should properly be evaluated not against current levels of employment but against the future job losses that would have likely occurred even under continued provincial operation of BC Rail. Using this relative measure results in job losses that are smaller than those reported when post-transaction employment levels are compared to current levels.

With respect to First Nations' interests, the partnership has been designed to preserve the status quo in BC Rail/First Nations programs and initiatives, but also includes provisions creating a $15-million BC Rail First Nations Benefits Trust.

On the whole, the partnership should advance the interests of BC Rail communities. While direct job losses at BC Rail will have a negative effect on some of these communities in the short run, we believe that the partnership likely will bring clear economic gains to BC Rail communities through the efficiencies it will create in the use of the BC Rail transportation network. Lower rates and improved rail service should translate into a healthier shipper community and a better climate for job creation in the private sector. Successful completion of the transaction also will provide communities with additional funds directly in the form of full property tax payments and also will generate revenues to fund the Northern Development Initiative, the proceeds of which can be used to improve further the attractiveness of BC Rail communities as sites for employment-generating investment.

4 Review of Financial Value to Province as Shareholder

4.1 OVERVIEW

This chapter discusses CRA's review of the financial value of the BC Rail operations transferred to CN to assess if the Province received fair and reasonable compensation from the new operator. We assessed the financial value of the operations from a variety of perspectives, and note that a transaction of this size and complexity can be valued only in relative terms. A proponent will value various aspects of a business depending on a number of issues:

- The "fit" or potential synergies with that proponent's existing business
- The proponent's knowledge, experience, and/or comfort with various risk areas
- The condition of the financial markets
- The confidence each proponent has in forecasts of revenue, cost, and business climate

Consequently, we performed sensitivity analyses in our valuations to determine a range of values for the BC Rail operations.

CRA first reviewed an analysis that CIBCWM performed in its role as the transaction advisor to the Province. In that analysis, CIBCWM looked at a number of recent, similar railroad transactions and calculated the price that was paid for each of those properties as a function of various financial measures. We conclude that while the CIBCWM analysis is more than adequate for the purposes of providing its intended test of reasonableness against which to evaluate the various offers received by the Province, it does not by itself provide sufficient evidence to evaluate whether the *final* offer represents a fair and reasonable value to the Province as shareholder. To facilitate this additional evaluation, we developed an expanded comparables analysis and an econometric model that each predict values of the BC Rail operations. The econometric model was calibrated using data from recent, comparable transactions, some of which are included in the CIBCWM benchmarks.

We derived a third view of business value by analyzing the future expected cash flows from status quo BC Rail operations. To conduct this analysis, we reviewed BC Rail's internal forecasts; made necessary short- and long-term adjustments, some of which reflect the differences between a Crown Corporation and a private enterprise; and then calculated the net present value (NPV) of future cash flows adjusted for a range of known risk factors.

Much of the expected value related to railroad acquisitions occurs when two railroads consolidate. There are significant opportunities to capitalize on economies of scale and eliminate duplicate departments and processes. In addition, larger railroad networks enable the business to provide more direct routes among an increased number of points offering lower single line costs. In the competition analysis described in Chapter 3, CRA used a Geographical Information System and applied a series of spatial network models to quantify the potential opportunity for each of the three finalist proponents to provide more direct routings and single line service. The output of these same network simulations also was used to help assess the potential, future revenue growth and future cost synergies that might be expected between BC Rail and the acquiring company.

A final consideration involves a non-capital loss carryforward (NOL) that could be used by the acquiring company to reduce taxes by applying the NOL to profits generated by BC Rail as well as profits generated by the acquiring company. This potential reduction in tax payments supports a benefits stream that is incremental to the ongoing BC Rail business. Consequently, the total transaction value related to the BC Rail operations includes both the expected cash generated by the business as well as the value of the NOL accounts.

4.2 REVIEW OF CIBCWM "MULTIPLES" ANALYSIS

CRA examined evidence of transaction value by analysing financial data derived from recent comparable transactions. Before turning to our own analysis, described in the next section, we discuss in this section the evidence considered by CIBCWM as part of its work as the transaction advisor to the Evaluation Committee.

In its work for the Evaluation Committee, CIBCWM compared the BC Rail transaction with other railroad transactions from the perspective of an investment bank. "Multiples" approaches, such as the one used by CIBCWM, typically examine the value of other, similar companies as a function of each company's financial performance as measured by revenue, earnings, and other metrics.

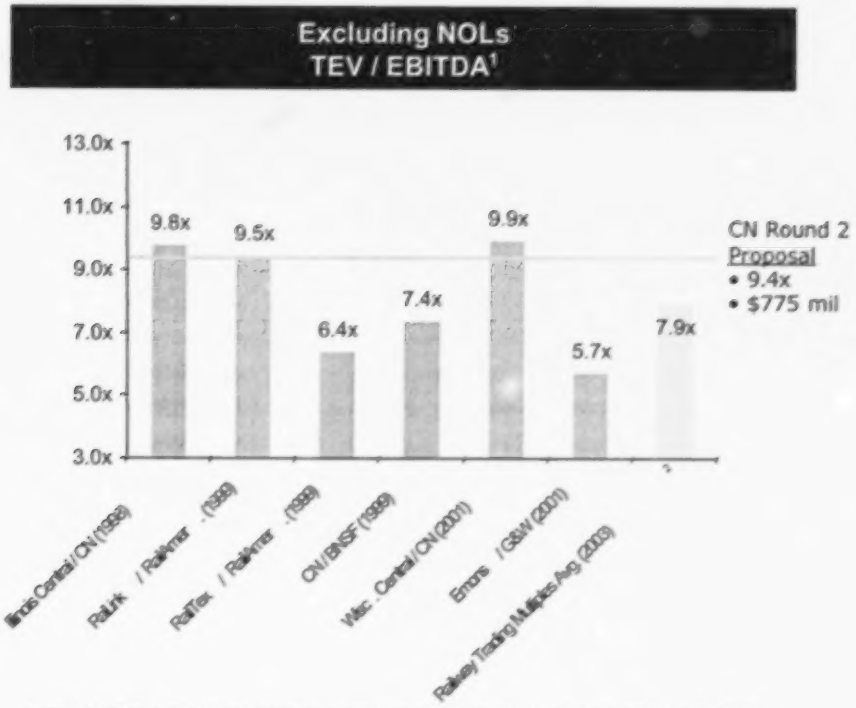
Buyers and sellers of rail lines often use similar financial ratios to estimate the price of a rail operation. Revenue and revenue intensity (a measure of the amount of inputs required for each unit of output) are generally accepted macro predictors of Total Enterprise Value (TEV) in the railroad industry. One commonly used ratio suggests that a fair and reasonable purchase price ranges between one and three times total annual revenue. Indeed, the majority of railroad businesses sell for an amount between 1.0 and 2.5 times annual revenue. Occasionally, a transaction with a value greater than 2.5 times annual revenue will occur, usually justified by

some strategic rationale. A second common guideline values rail businesses at eight to ten times net income.

For the purposes of its analysis, CIBCWM focused particularly on the multiple of TEV divided by earnings before interest, taxes, depreciation, and amortization (EBITDA). For the benchmark companies involved in a recent sale, the TEV is equal to the sale price associated with the transaction. In comparing the value of BC Rail's operations with ongoing railroad businesses, CIBCWM set the TEV equal to the market capitalization of a company plus debt and less cash. Since market capitalization is calculated based on the value and number of shares of stock outstanding, CIBCWM's analysis of ongoing businesses necessarily involves only publicly traded companies. CIBCWM also used the price-to-earnings (P/E) ratio as a basis for comparison. By using stock value as a surrogate for TEV, CIBCWM's analysis utilizes the market's perception of a company's value. Consequently, the multiples comparison also measures how well a company presents its value story to the market.

CIBCWM portrayed TEV/EBITDA ratios for a number of benchmark companies and compared those historic multiples to the round two purchase price presented by CN, the selected proponent. Figure 6 below shows the multiples comparison, and Table 8 lists the precedent transactions as presented by CIBCWM. As indicated by the wide range of calculated multiples, the CIBCWM methodology provides a macro perspective of the transaction.

Figure 6—CIBCWM TEV/EBITDA Multiples



[1] TEV / EBITDA multiples based on precedent transactions are calculated based on LTM EBITDA.

[2] "Railway trading multiples" represents the average TEV / 2003E EBITDA trading multiples for the following publicly traded railways: BNSF, CN, CP, Union Pacific, CSX, Kansas City Southern, Norfolk Southern, Genesee & Wyoming and RailAmerica.

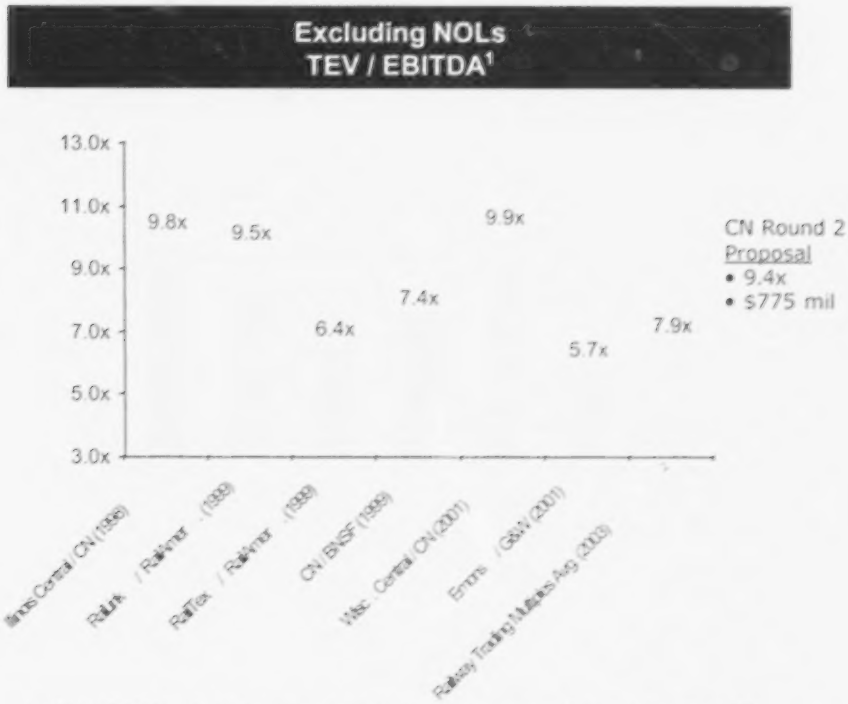
Source (data/graphic theme): CIBCWM

Table 8—Precedent Transaction Multiples

Date Announced	Target/Acquirer	Equity Value	TEV	TEV / LTM EBITDA	TEV / LTM EBIT	Price / Earnings	Price / Book
		(US $ millions)					
Dec. 3, 2001	Emons Transportation Group / Genesee & Wyoming Inc.	18.5	29.4	5.7x	9.3x	6.3x	1.0x
Jan. 30, 2001	Wisconsin Central / Canadian National Railway	795.7	1191.3	9.9x	12.7x	17.4x	1.7x
Dec. 20, 1999	Canadian National Railway / Burlington Northern Santa Fe	6307.4	9021.5	7.4x	9.7x	14.8x	1.7x
Oct. 14, 1999	RailTex Inc. / RailAmerica Inc.	200.5	331.0	6.4x	9.3x	13.3x	1.3x
May 17, 1999	RailLink Ltd. / RailAmerica Inc.	43.7	64.6	9.5x	17.3x	21.9x	1.3x
Feb. 10, 1998	Illinois Central Corp. / Canadian National Railway	2495.7	3058.3	9.8x	11.3x	16.6x	3.9x
Oct. 15, 1996	Conrail Inc. / CSX Corp. & Norfolk Southern	9441.5	11783.5	10.4x	13.8x	16.2x	3.2x
Jun. 29, 1994	Santa Fe Pacific Corp. / Burlington Northern Inc.	5517.8	6607.3	11.6x	17.7x	38.9x	4.8x
	Average			***8.8x***	***12.6x***	***18.2x***	***2.4x***
	Median			***9.6x***	***12.0x***	***16.4x***	***1.7x***

Source (data/graphic theme): CIBCWM

Figure 6—CIBCWM TEV/EBITDA Multiples



[1] TEV / EBITDA multiples based on precedent transactions are calculated based on LTM EBITDA.

[2] Railway trading multiples" represents the average TEV / 2003E EBITDA trading multiples for the following publicly traded railways: BNSF, CN, CP, Union Pacific, CSX, Kansas City Southern, Norfolk Southern, Genesee & Wyoming and RailAmerica.

Source: (data/graphic theme) CIBCWM

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	Median			*9.6x*	*12.0x*	*16.4x*	*1.7x*

Source: (data/graphic theme) CIBCWM

We note that CN (as did the other final proponents in this transaction process) valued BC Rail's operations within the range of benchmarks examined by CIBCWM. As such, the results of the CIBCWM multiples analysis provide a good, first approximation of the fairness and reasonableness of the proposals. Indeed, we believe the Evaluation Committee had enough information to ensure that the three final proposals were in a reasonable range and to accept them as serious contenders before conducting further evaluation. However, as we discuss below, while the CIBCWM methodology was successful in offering a preliminary screen of the proposals, the approach alone is insufficient for further determining if the final purchase price represents a fair and reasonable value to the Province as shareholder.

4.3 CRA COMPARABLES MODEL AND ANALYSIS

While the CIBCWM analysis establishes a broad range against which to evaluate competing offers, it does not determine within the range where CN or any other proponent would likely value the BC Rail business opportunity. Such an assessment requires a more refined comparables analysis that takes into account the particular circumstances surrounding both the comparable transactions and the proposed BC Rail transaction. In particular, for reasons discussed below, our comparables analysis will take into account transaction-specific issues such as business opportunities, operating efficiency and traffic intensity, and risks created by traffic mix profiles.

Proponents typically evaluate a business's current performance and develop their own estimates of future income and revenue to determine what value they place on a property. A proponent will look for additional value in a property not currently enjoyed by the seller. Assumptions such as efficiency of scale, new traffic sources, or employment downsizing, enable proponents to vary their proposals from strict adherence to the generally accepted multiples ratios.

Measures of operating efficiency and traffic intensity can be used to indicate if the purchase offer will tend to be at the higher end of a multiples ratio. Two measures that seem to be effective in gauging traffic intensity are revenue per kilometre and revenue per employee. For both measures, the higher the number the more likely it is that a proponent will increase its offer. A proponent will value a property that currently generates a high amount of revenue per unit of input very differently than an under-performing property. Furthermore, a proponent will assess the turnaround potential of an under-performing property to properly gauge the TEV.

Traffic mix is another important metric that is omitted in a simple multiples methodology. As in any business, the diversity and strength of a railroad's portfolio drives value. A more diverse

portfolio, represented by the number of different commodities and customers in a railroad's traffic mix, is more valuable than a less diverse portfolio. BC Rail's portfolio is highly dependent on the forest products industry, which in the past has represented more than 60 percent of revenue, and has a limited customer base with five customers accounting for 61 percent of the revenue.[29] While BC Rail's risk profile is quite high, given its dependence on a single industry, this may not be a problem for an acquiring railroad company, depending on its existing portfolio. BC Rail's strength in the forest product industry may complement the existing portfolio in a way that increases the diversity of the merged portfolio.

Taking these factors into account, CRA expanded the CIBCWM multiples analysis by performing a similar but more sophisticated comparables analysis. We chose seven transactions that exhibited similarities in route size, revenue, sale price, or operational complexity, to compare to the BC Rail transaction. The transactions involved the following acquired companies:

- Freight Australia
- Illinois Central
- Utah Railway Company
- Emons Transportation
- Wisconsin Central
- Estonian Railways
- TFM (Mexico)

This list differs from that used by CIBCWM by including the privatizations of three railroads comparable in size and complexity to BC Rail (Freight Australia, Estonian Railways, and TFM) and omitting three of the North American benchmark transactions used by CIBCWM (Canadian National Railway/Burlington Northern Santa Fe, Conrail Inc./CSX Corp. & Norfolk Southern, and Santa Fe Pacific Corp./Burlington Northern.). In our view, the latter transactions represent acquisition opportunities of such a significantly larger scale than BC Rail as not to be close comparables.

[29] BC Rail's 2003 outlook. See 2002 BC Rail Fact Book.

A summary of these transactions is presented in Table 9. Ratios of revenue per kilometre, revenue per employee, and purchase price to revenue for each of the comparable sales are shown in Figures 7, 8, and 9. Dollar amounts in each of these graphics are Canadian dollars at the time of the transaction. As explained in the notes to Table 9, purchase prices for transactions involving partial ownership are adjusted to reflect the corresponding price for the entire company.

Review of Financial Value to the Province as Shareholder

Table 9—Comparable Transactions

(CADS)	BC Rail	Freight Australia[7]	Illinois Central	Utah Railway Company	Emons Transportation	Wisconsin Central	Estonia	YPM[8]
Acquirer	Canadian National	RailAmerica	Canadian National	Genesee & Wyoming	Genesee & Wyoming	Canadian National	Baltic Rail Services	Kansas City Southern
Purchase price (millions)[1]	$750	$156	$2,638	$86	$46	$1,246	$133	$1,438
Purchase date[2]	25-Nov-03	1-Feb-1999	1-Jul-1999	28-Aug-2002	3-Dec-2001	7-Sep-2001	1-May-2001	1-Dec-1997
Purchase package								
Operating concession[3]	Y	Y	Y	Y	Y	Y	Y	Y
Real estate[3]	Y	Y	Y	Y	Y	Y	N	N
Tracks & facilities[3]	Y	Y	Y	Y	Y	Y	N	N
Locomotives[3]	Y	Y	Y	Y	Y	Y	Y	Y
Rolling stock[3]	Y	Y	Y	Y	Y	Y	Y	Y
Exclusive access[3]	Y	N	Y	Y	Y	Y	N	N
Freight / passenger[4]	100%	100%	100%	100%	100%	100%	100%	100%
Duration of deal (years)[5]	50	45	999	999	999	999	999	999
Total km of track	2,315	3,012	4,094	601	557	4,442	684	4,282
No. of locomotives	121	86	348	23	44	244	129	468
No. of freight cars	9,062	1,078	14,213	250	405	13,184	4,154	6,673
Annual freight carloads	150,000	220,000	951,000	90,000	57,000	536,593	135,000	676,208
No. of employees	1,616	1,050	3,192	80	170	2,262	4,300	3,987
Operating revenue (millions)	$293	$100	$985	$38	$37	$546	$103	$874
Operating ratio[6]	69%	110%	69%	89%	89%	70%	94%	70%
Rev / track km	$126,765	$30,519	$235,955	$53,108	$66,773	$123,372	$148,610	$227,408
Rev / employee	$181,373	$76,652	$302,644	$451,088	$216,790	$242,281	$23,973	$244,261
Rev / carload	$1,956	$756	$1,016	$402	$652	$1,021	$764	$1,440
Employee / track km	0.7	0.3	0.8	0.1	0.3	0.5	6.2	0.9
Purchase price / op rev	2.6x	1.6x	2.7x	2.4x	1.2x	2.3x	1.3x	1.5x
Purchase price / op inc	13x	-13.7x	8.6x	15.6x	8.2x	9.1x	22x	6.1x

Sources:

Company 10 Ks, STB filings, comments

Notes:

This is the point that the acquiring firm was willing to pay for the retain value of the target.

Thus, for Estonia Railways and YPM, where the transaction was for a share of the company, we scaled the purchase price appropriately.

All data presented are for the full year prior to the year of the date. Data for BC Rail are for 2003.

$ Yes, N/Yes.

Ratio of freight to passenger operations (expressed as the percentage of freight to total).

999 is used to imply an infinite timeframe for deals of an unspecified duration.

Operating ratio and income for BC Rail reflect CDN/GAAP adjustments.

For Freight Australia, the Enterprise Value includes AC$75 million for purchase of assets, and AC$99 million lump sum payment for 3 concession 15 year leases for minimal track in Victoria.

Groups YPM holds an 80% direct economic interest in YPM. The remaining 20% economic interest in YPM is owned by the Mexican government.

Table 9–Comparable Transactions

(CAD$)	BC Rail	Freight Australia[7]	Illinois Central	Utah Railway Company	Emons Transportation	Wisconsin Central	Estonia	TFM[8]
Acquirer	Canadian National	Rail America	Canadian National	Genesee & Wyoming	Genesee & Wyoming	Canadian National	Baltic Rail Services	Kansas City Southern
Purchase price (millions)[1]	$750	$150	$2.63B	$80	$40	$1.2B	$133	$1.43B
Purchase date[2]	25-Nov-03	1-Nov-1999	1-Jul-1999	26-Aug-2002	3-Dec-2004	7-Jun-2001	1-May-2001	1-Dec-1997
Purchase package								
Operating concession[3]	Y	Y	Y	Y	Y	Y	Y	Y
Real estate	Y	Y	Y	Y	Y	Y	N	N
Tracks & facilities[4]	Y	Y	Y	Y	Y	Y	N	N
Locomotives	Y	Y	Y	Y	Y	Y	Y	Y
Rolling stock	Y	Y	Y	Y	Y	Y	Y	Y
Exclusive access[5]	Y	N	Y	Y	Y	Y	N	N
Freight / passenger[6]	100%	100%	100%	100%	100%	100%	100%	100%
Duration of line (years)[7]	50	40	999	999	999	999	999	999
Track km of track	2,356	3,012	4,194	195	157	3,442	334	4,262
No. of locomotives	121	90	140	23	32	244	125	400
No. of freight cars	9,102	1,878	14,213	262	441	13,104	4,164	9,675
Annual freight carloads	150,000	320,000	561,000	90,000	67,000	530,931	135,000	476,000
No. of employees	1,414	1,100	3,132	40	115	2,262	4,300	3,947
Operating revenue (millions)	$293	$130	$446	$36	$37	$544	$119	$974
Operating ratio[8]	80%	110%	90%	85%	85%	75%	94%	75%
Rev. / track km	$126,766	$33,816	$218,408	$51,138	$44,777	$323,972	$344,611	$227,4[illegible]
Rev. / employee	$181,373	$76,182	$302,644	$451,300	$294,730	$242,261	$23,973	$244,261
Rev. / carload	$1,956	$766	$1,016	$400	$663	$1,029	$704	$1,441
Employee / track km	0.7	0.3	0.8	0.1	0.3	0.5	0.2	0.[illegible]
Purchase price / revenue	2.6x	1.1x	2.7x	2.4x	1.2x	2.3x	1.1x	1.5x
Purchase price / EBITDA	11x	15.7x	9.0x	16.0x	9.0x	9.7x	22x	6.7x

[illegible]

Figure 7—Graph of Revenue per Track Kilometre

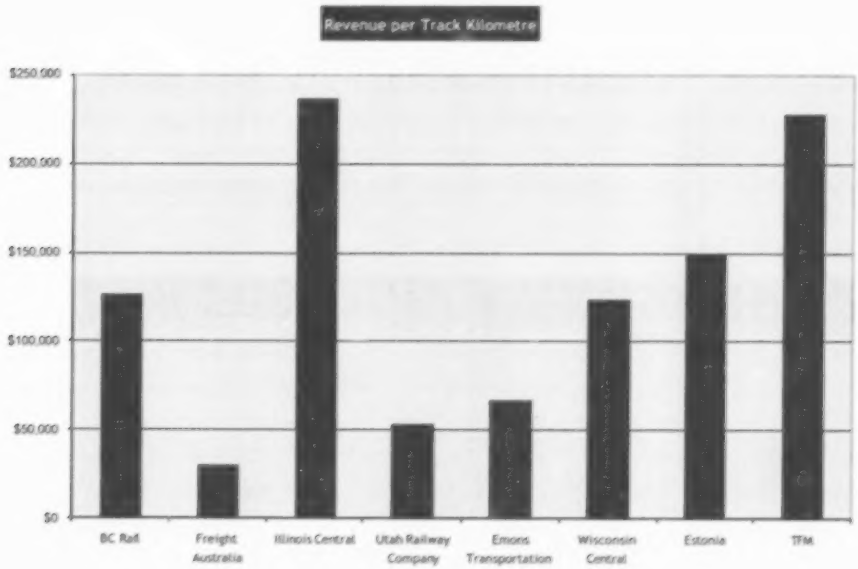


Figure 8—Graph of Revenue per Employee

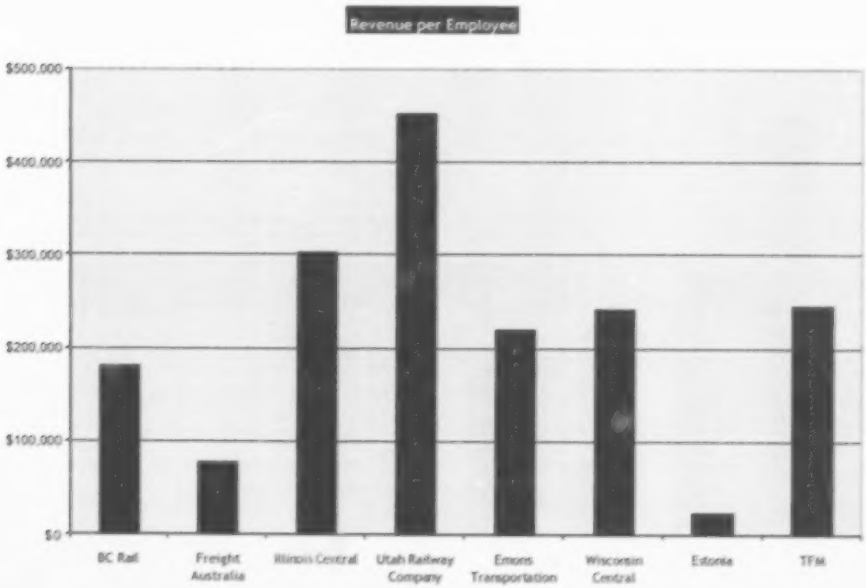
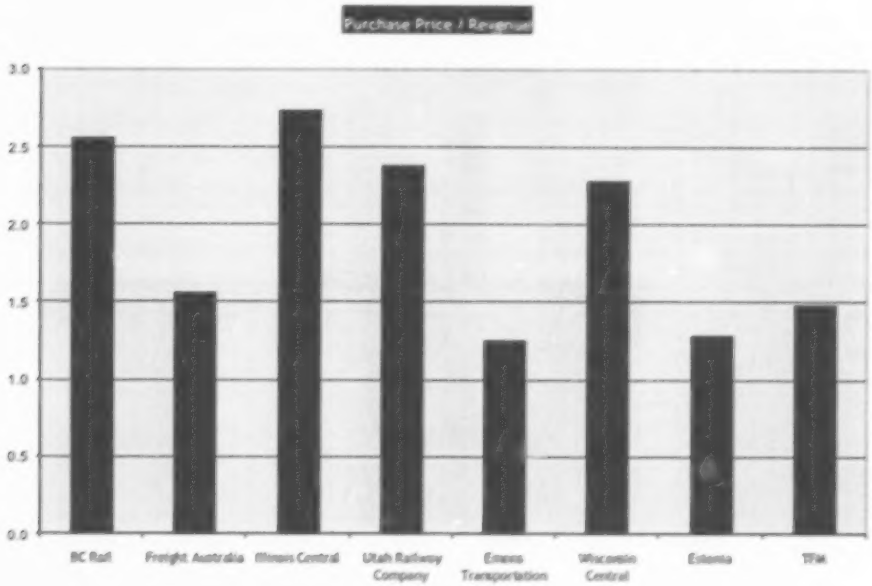


Figure 9—Graph of Ratio of Purchase Price to Revenue



4.3.1 Discussion of CRA Benchmarks

4.3.1.1 Freight Australia

V-Line Freight was the government-owned railroad of the Australian State of Victoria (Victoria). In the years leading up to 1999, V-Line Freight experienced net losses, and Victoria subsequently sold the operation, along with a long-term track lease, in 1999 to meet a federally mandated goal to promote competition.

Victoria initially expected that its poor historical performance would keep the sale at a modest level, and planned to offer the line at a relatively low price and package it with ongoing subsidies. In the end, Victoria offered the operation for sale to the highest bidder without constraining the purchase price or offering subsidies.

While Victoria expected offers in the $40 million range, RailAmerica, a U.S. short line holding company, ultimately purchased V-Line Freight for $156 million[30] in cash, a price that was about

[30] All dollars are the Canadian equivalent at the time of each transaction.

Figure 7–Graph of Revenue per Track Kilometre

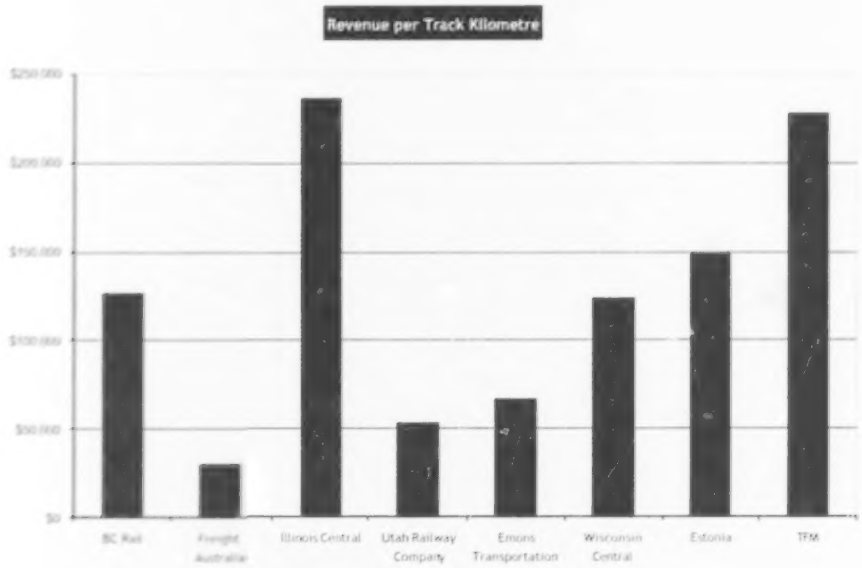


Figure 8–Graph of Revenue per Employee

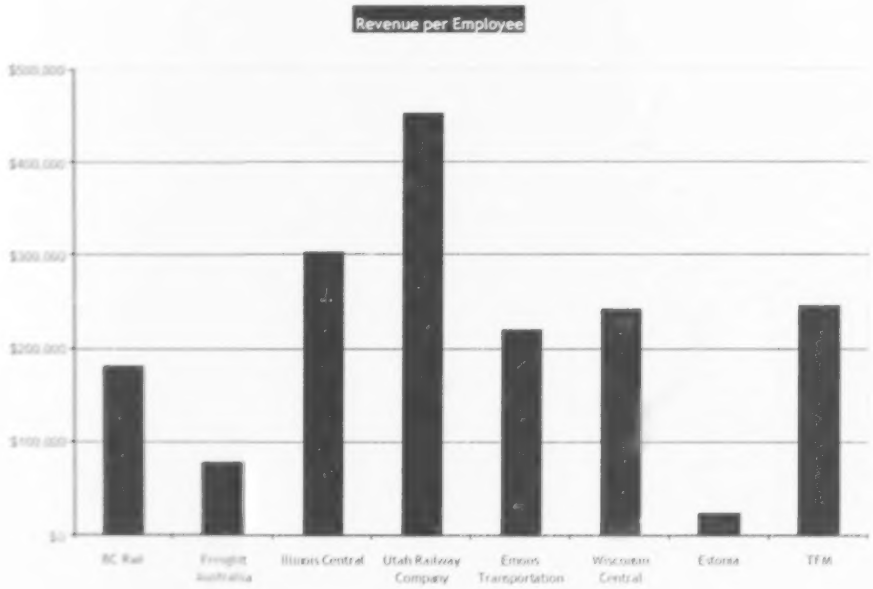
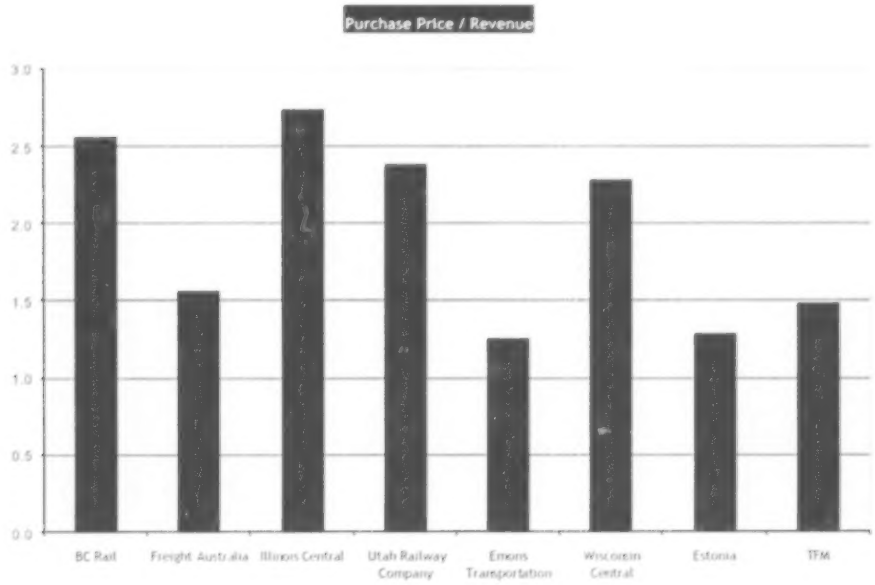


Figure 9—Graph of Ratio of Purchase Price to Revenue



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[30] All dollars are the Canadian equivalent at the time of each transaction.

1.6 times revenue. RailAmerica had studied the operation carefully and discovered the potential for significant revenue growth. In only two years from the date of purchase in February of 1999, annual revenue reached $138 million, revealing a "new" purchase-price-to-revenue ratio of about 1.1.

A significant similarity between the V-Line Freight transaction and that of the BC Rail operations is that in both cases the government retained ownership of the track and right-of-way. This did not appear to influence RailAmerica's offer in any way. One may assume that such would be the case with the selected offer for BC Rail's operations.

A noteworthy difference between the two transactions is the density of activity. For example, BC Rail revenue per employee and revenue per kilometre are two to three times greater than those metrics for V-Line Freight. All else constant, a greater density of activity per kilometre or employee would suggest a higher relative value for BC Rail's operations than for those of V-Line Freight.

4.3.1.2 Illinois Central

The Illinois Central Railroad (IC), a large U.S. operation, was purchased by CN in July of 1999 for approximately $2.638 billion. IC's total annual revenue before the acquisition was $966 million, yielding a ratio for revenue to purchase price of about 2.7, well above normal. Indeed, CN's decision to pay above an expected value is not without merit.

First, IC was a dense operation with revenue per track kilometre of more than $236,000. One of the reasons that IC was such a valuable franchise is that it exclusively served many of the chemical refineries along the United States coast of the Gulf of Mexico. Similarly, BC Rail is situated in British Columbia with unique access to forest products. These kinds of businesses yield high revenue per car for both. Given this, IC easily could command a substantial premium from a buyer.

Second, the Illinois Central Railroad presented a strategic acquisition to Canadian National Railway. The IC mainline runs straight from the North American railroad capital of Chicago in the U.S. Midwest to the Gulf port of New Orleans. Key branch lines reach into coalfields, grain belts, and chemical refineries. With this access to shippers, the IC line would make CN a significant railroad force in both Canada and the United States; failing to buy the IC could have excluded CN from being a major North American operator. Ultimately, the strategic nature of the acquisition allowed CN to claim being one of the first true North American Free Trade Agreement (NAFTA) operations and clearly warranted a premium on the purchase price.

The similarity between IC and BC Rail with respect to their strategic locations leads us to believe that the BC Rail transaction would yield a purchase-price-to-revenue ratio close to the ratio for IC of 2.7.

4.3.1.3 Utah Railway Company

The Utah Railway network extends from Provo, Utah, into the Wasatch Mountains in the vicinity of Helper, Utah. Although Utah Railway owns only 40 kilometres of track, it has extensive trackage rights that allow it to operate over a total of 681 kilometres. With unit-train service to coal mines, coal traffic represents roughly two thirds of Utah Railway's total traffic. In addition to serving coal mines, the railroad also acts as the switching agent for BNSF in the Salt Lake City area.

Genesee & Wyoming Inc., one of the two major short line holding companies in the United States, purchased Utah Railway for $86 million in cash in August 2002. At the time of purchase, total annual revenue for the railroad was $36 million, making the purchase price 2.4 times revenue and putting it at the high end of the generally accepted range. Conversely, revenue per kilometre at $53,106 is the lowest of the comparables identified. This is somewhat deceiving as the amount of trackage that should be used in calculating the metric is 40km instead of 681km. Adjusting the revenue-per-kilometre ratio accordingly brings it to a remarkably high $900,000. The proper comparable ratio is between these two values and is likely to be near the average of $132,500 revenue per kilometre for the comparable transactions. Revenue per employee, however, is the highest of any of the properties at $451,898.

By purchasing this regional railroad with such an exceptional level of efficiency, Genesee & Wyoming was able to improve greatly its presence in the western United States, which helps explain the higher relative purchase price and the 2.4 price-to-revenue ratio. The purchase of BC Rail's operations would provide an acquiring railroad with a similar regional presence in western Canada, and so we would expect a similar price-to-revenue ratio.

4.3.1.4 Emons Transportation

Emons Transportation (Emons), a small short line holding company, operated four short lines consisting of 557 kilometres of total track. Annual revenue was $37 million with revenue per kilometre at $66,770, the third lowest of the comparables, and revenue per employee at $218,706, closer to the median for that metric. In December 2001, Genesee & Wyoming Inc. purchased Emons for $46 million, generating a purchase-price-to-revenue ratio of 1.2 on the lower side of the ratio range. A review of Emons' performance reveals average returns for an

average company, reflected by the 1.2 ratio. With BC Rail exhibiting higher revenue per kilometre and per carload, we would anticipate a purchase-price-to-revenue ratio for BC Rail to far exceed that for Emons.

4.3.1.5 Wisconsin Central

Wisconsin Central (WC) was a 4,442-km railroad consisting of a mainline that extended from Chicago, Illinois, to Superior, Wisconsin, in addition to extensive operations throughout Wisconsin. WC was one of the largest regional railroads created after railroads were deregulated in the United States. WC hauled a significant amount of paper products, while also running intermodal service with CN from Canada's west coast to Chicago.

From the start, Wisconsin Central was known as an innovative railroad offering a superior service. The large railroads surrounding WC took note of the innovations and high service standards and incorporated them into their businesses. Eventually, WC's performance became less unique and more typical of other railroads.

WC's total revenue was $548 million at the time of purchase. Revenue per kilometre was $123,372, slightly below the average of the comparables, and revenue per employee was higher than average at $242,261.

In September 2001, CN purchased Wisconsin Central for $1.246 billion, or 2.3 times revenue. With its relatively average performance measures, WC was a better-than-average property of significant size. This, along with its strategic fit with a combined CN and IC, helps to explain why WC's price-to-revenue ratio was so much higher than the average range of 1.50 to 1.75. Comparing WC's performance metrics to BC Rail's suggests that the BC Rail transaction would result in a similar price-to-revenue ratio.

4.3.1.6 Estonian Railways

The country of Estonia has been a leader among the former Soviet republics in the privatization of state-owned enterprises. One of the last such transactions was the sale of 66 percent of the ownership of the state-owned railroad Eesti Raudtee ("Estonian Railways").

At the time of sale, Estonian Railways was earning revenues of $104 million. Revenue per kilometre was fairly average at $148,618, and revenue per employee was the lowest among comparable transaction properties at $22,918.

A consortium of American, English, and Estonian investors formed Baltic Rail Services and purchased the 66 percent ownership share in May 2001 for $133 million. Scaling this purchase

price to reflect the price of 100 percent of the ownership yields a price-to-revenue ratio of 1.3.[31] Given the average to below-average performance indicated by the per-kilometre and per-employee ratios mentioned above, the purchase price would seem reasonable.

There are factors related to the Estonia transaction that, to the contrary, suggest that it could and should have been sold at a higher price. First, although controlling interest of 66 percent was acquired, confusion and risk in the decentralization of Soviet-controlled countries may have depressed aggressive bidding. Second, the Estonian government required significant infrastructure improvements; in fact, the selected proposal promised multimillion-dollar improvements over ten years. A third reason is the potential for significant increases in rail traffic over Estonian Railways between Russia and Western Europe. When the Russian economy becomes more stable, one may expect a major upswing in rail business in general and for Estonian Railways. These conditions surrounding the Estonia transaction would suggest that the purchase price was lower than it should have been and that the BC Rail transaction should yield a higher ratio of purchase price to revenue.

4.3.1.7 Grupo Transportación Ferroviaria Mexicana, S.A. de C.V. (TFM)

In the early 1990s, the Mexican government decided to privatize some of its rail lines by granting partial concessions to rail operators. One of the general stipulations stated that ownership could not leave Mexican control. Another required that general use of the property would last for 50 years but that exclusive use would last for only 30 years.

A package was offered for the rail lines in north-eastern Mexico. It included control of access to the Tex-Mex Railway, a U.S. property owning a key gateway rail bridge between the United States and Mexico at Laredo, Texas.

Annual revenue of the offered rail lines was $974 million, slightly more than IC. Revenue per kilometre of $227,408, one of the highest among the comparable transactions, was just below that of IC. Revenue per employee was $244,261, slightly higher than the comparable average.

A joint venture of Kansas City Southern Railroad of the United States and TMM Multimodal of Mexico was granted for the concession for $1.438 billion in December of 1997. The buyers subsequently created Grupo Transportación Ferroviaria Mexicana, S.A. de C.V. (TFM) to operate the railroad. The purchase-price-to-revenue ratio of 1.5 implies an average property with average prospects, a modest view given the favourable per-kilometre and per-employee

[31] For this analysis, we linearly scaled the 66-percent purchase price. It is likely, however, that that controlling interest was sold at a premium because of it was a majority holding. Thus, a more precise scaling would probably yield a lower overall value of the railroad and a lower corresponding price-to-revenue ratio.

ratios. The uncertainty surrounding this concession and the complex ownership requirements probably suppressed the purchase price. Therefore, we would predict the BC Rail transaction, without the same kind of complexity and uncertainty, to exhibit a higher ratio of price-to-revenue.

4.3.1.8 BC Rail

Using the comparable transactions described above as a basis for estimation, and considering the measures of intensity, risk, and opportunity, CRA would expect the BC Rail operation to sell at a price between 2.2 and 2.6 times revenue, resulting in a value range of $646 million and $763 million. However, this approach is a qualitative assessment of a range of values that might be expected, based on macro-level estimations of conditions and risks. In the next section, we improve on this analysis by offering a quantitative model that mathematically represents the comparable transactions and suggests a different value range for the BC Rail operations.

4.3.2 Statistical Analysis of Comparable Transactions

To determine the value of a transaction, one must understand how a proponent expects to alter the revenue and cost structure to justify an acquisition. CRA statisticians used the data from the comparable transactions described to build a quantitative model that determines how much a proponent, at a given purchase price, would need to alter the existing revenue and/or cost structure of BC Rail's operations to justify the purchase price as compared to the comparable transactions that actually occurred.[32]

Using these data, we developed a statistical model relating the amount paid for a rail property to the cost of the operations or assets purchased in the transaction, the revenue generated by the property in the year prior to the purchase, and the operating ratio in the year prior to the purchase. Operating ratio is a good surrogate for the operating efficiency, asset intensity, and revenue quality metrics discussed above.[33] The model takes the form of:

$$\text{Value} = A * (\text{Assets})^{B1} * (\text{Revenue/Assets})^{B2} * (\text{Operating Ratio})^{B3},$$

[32] Note that this approach simply determines if the buyer is paying an amount comparable to that paid in other similar deals. It does not determine if the buyer will make sufficient profits to justify the purchase price economically. The latter evaluation is dealt with in the next section using the discounted cash flow model.

[33] The BC Rail operating ratio used in this analysis is different than the one listed in reported financials due to adjustments required to make the measure equivalent to a private company. See section 4.4.2 below for further discussion.

or the linear equivalent,

$$\text{Log (Value)} = \text{Log (A)} + B1 * \text{Log (Assets)} + B2 * \text{Log (Revenue/Assets)} + B3 * \text{Log (Operating Ratio)},$$

where A, B1, B2, and B3 are parameters whose values are estimated from the transaction data as described in Table 10.

Table 10—Transaction Data Converted to Regression Input

	Transaction Data							Regression Input				
Target	Purchase Price[1]	Total Kilometers of Track	Number of Locomotives	Number of Freight Cars	Operating Revenue	Operating Ratio	Assets[2]	Revenue / Assets[3]	Log (Purchase Price)[4]	Log (Assets)[5]	Log (Revenue / Assets)[6]	Log (Operating Ratio)[7]
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
Freight Australia	$169	3,912	86	1,676	$107	110%	$3,271	0.033	5.1298	8.0929	(3.4164)	0.0953
Illinois Central	$2,776	4,094	346	14,213	$1,036	68%	$3,980	0.260	7.9288	8.2889	(1.3460)	(0.3831)
Utah Railway Company	$87	681	23	250	$38	85%	$570	0.064	4.4602	6.3450	(2.7567)	(0.1654)
Emons Transportation	$48	557	44	485	$38	85%	$484	0.078	3.8622	6.1812	(2.5552)	(0.1654)
Wisconsin Central	$1,250	4,442	244	13,164	$554	75%	$4,194	0.132	7.1305	8.3415	(2.0250)	(0.2876)
Eutonia	$131	694	129	4,154	$104	94%	$761	0.137	4.8784	6.6349	(1.9891)	(0.0604)
TFM	$1,553	4,292	468	8,679	$1,056	76%	$3,947	0.267	7.3479	8.2808	(1.3189)	(0.2798)
BC Rail[8]	**$750**	**2,315**	**121**	**9,002**	**$293**	**80%**	**$2,269**	**0.129**	**6.6201**	**7.7289**	**(2.0452)**	**(0.2184)**

Notes:

[1] Dollars in CAD$ millions, adjusted to 2002 price levels (BC Rail data in 2003 dollars)

[2] Assumptions:

Value of track per kilometer = CAD$813,537. This was derived from a USD$1,000,000 per mile average estimated by rail industry experts and an exchange rate of 1.3092 USD to CAD.

Value of locomotive = CAD$261,840. This was derived from a USD$200,000 per locomotive average estimated by rail industry experts and an exchange rate of 1.3092 USD to CAD.

Value of freight car = CAD$39,276. This was derived from a USD$30,000 per freight car average estimated by rail industry experts and an exchange rate of 1.3092 USD to CAD.

[3] Assets = ((a) * 813,537) + ((c) * 261,840) + ((d) * 39,276). This value serves as a simple comparable benchmark for value of a company's assets.

[4] Revenue / Assets = ((e) / (g)). This value serves as a simple benchmark for the revenue generating capability of a company's assets.

[5] (i) = ln (a)

[6] (j) = ln (g)

(k) = ln (h)

[7] (l) = ln (f)

[8] BC Rail data were not part of the input for the regression.

A number of data transformations were required to ensure that each of the historic transactions was represented in the regression database on a consistent basis. Foreign currencies were converted to Canadian dollars; units of measure in the U.S. system were transformed into equivalent metric units; appropriate inflation indices were applied to historic values; and in those cases where the transaction conveyed a portion of the company, the price was scaled up to reflect the corresponding price of the entire company.

In many of these comparable or benchmark transactions, the purchase included the underlying real estate and railway infrastructure. While this is not true in the Australian example or in the BC Rail case, the buyers in both cases elected to prepay a long-term lease for the property. In economic terms, one would expect that the net present value (NPV) of a future stream of lease payments would reasonably represent the current purchase price for a given asset. In the long run, this assertion includes any costs that may accrue differently to the operator as lessee versus owner. For example, even if the owner were directly responsible for paying some taxes, maintenance costs, or liability risks, these costs ultimately would be reflected in the lease price that the owner expected to receive for the property. Consequently, as long as the purchase

or the linear equivalent,

$$\text{Log (Value)} = \text{Log (A)} + \text{B1} * \text{Log (Assets)} + \text{B2} * \text{Log (Revenue/Assets)} + \text{B3} * \text{Log (Operating Ratio)},$$

where A, B1, B2, and B3 are parameters whose values are estimated from the transaction data as described in Table 10.

Table 10—Transaction Data Converted to Regression Input

	Transaction Data[1]								Regression Input			
Target	Purchase Price	Total Kilometres of Track	Number of Locomotives	Number of Freight Cars	Operating Revenue	Operating Ratio	Assets[2,3]	Revenue/ Assets[4]	Log (Purchase Price)[5]	Log (Assets)[6]	Log (Revenue/ Assets)[7]	Log (Operating Ratio)[8]
	[a]	[b]	[c]	[d]	[e]	[f]	[g]	[h]	[i]	[j]	[k]	[l]
Freight Australia	$169	3,942	66	1,676	$107	110%	$1,271	0.083	5.1246	4.1029	(3.4164)	(0.0957)
Illinois Central	$2,776	4,094	349	14,213	$1,236	69%	$3,993	0.260	7.3268	4.2899	(1.3493)	(0.3691)
Utah Railway Company	$67	681	23	250	$38	95%	$570	0.064	4.4002	6.3450	(2.7567)	(0.1054)
Illinois Transportation	$68	107	44	435	$38	95%	$444	0.078	3.8522	6.1912	(2.5552)	(0.1054)
Wisconsin Central	$1,250	4,442	244	13,114	$554	75%	$4,134	0.132	7.1305	8.3415	(2.0250)	(0.2876)
Eurotra	$131	658	525	4,154	$104	94%	$761	0.137	4.8744	6.6369	(1.5895)	(0.0604)
TFM	$1,553	4,292	469	9,679	$1,056	76%	$3,147	0.287	7.3479	8.2808	(1.3193)	(0.2794)
BC Rail[9]	$750	2,315	121	9,902	$293	80%	$2,269	0.129	6.6201	7.7269	(2.0452)	(0.2164)

Notes:

1. Values in US dollars converted to Canadian dollars.
2. Assumptions:
   a. Value of track per kilometre = C$300,000. The assumed value of a locomotive is equal to the value of a kilometre of track. The assumed value of a freight car is equal to the value of a locomotive.
   b. Value of locomotive = C$800,000. The assumed value of a freight car is equal to the value of a locomotive.
   c. Value of freight car = C$200,000. The assumed value of a locomotive is equal to the value of a freight car.
   Assumed value = Number [a] [b] + Number [c] [b] + Number [d] [c]. The value of a sample railway is the sum of its component assets.
3. [g] = [e]
4. [h] = [e]/[g]
5. [i] = Ln [a]
6. [j] = Ln [g]
7. [k] = Ln [h]
8. [l] = Ln [f]
9. Australian dollars converted to Canadian dollars.

A number of data transformations were required to ensure that each of the historic transactions was represented in the regression database on a consistent basis. Foreign currencies were converted to Canadian dollars; units of measure in the U.S. system were transformed into equivalent metric units; appropriate inflation indices were applied to historic values; and in those cases where the transaction conveyed a portion of the company, the price was scaled up to reflect the corresponding price of the entire company.

In many of these comparable or benchmark transactions, the purchase included the underlying real estate and railway infrastructure. While this is not true in the Australian example or in the BC Rail case, the buyers in both cases elected to prepay a long-term lease for the property. In economic terms, one would expect that the net present value (NPV) of a future stream of lease payments would reasonably represent the current purchase price for a given asset. In the long run, this assertion includes any costs that may accrue differently to the operator as lessee versus owner. For example, even if the owner were directly responsible for paying some taxes, maintenance costs, or liability risks, these costs ultimately would be reflected in the lease price that the owner expected to receive for the property. Consequently, as long as the purchase

prices that are used in the comparables analysis include both the price paid to acquire the operating concession as well as the NPV of the lease costs, it is acceptable to view them along with examples where right-of-way ownership also was conveyed.

Depending on the values taken by the four parameters, this valuation model is consistent with any of the rules of thumb described earlier. For example, a situation in which the value of a property is equal to the value of its assets corresponds to a model in which both A and B1 are equal to one, and both B2 and B3 are equal to zero. A situation in which value is equal to twice the amount of annual revenue corresponds to a model in which A is equal to two, both B1 and B2 are equal to one, and B3 is equal to zero.

Applying standard regression techniques to the data for the comparable transactions produces the following values for the parameters of the model shown above:

- A = -1.534
- B1 = 1.106
- B2 = 0.601
- B3 = -2.438

All coefficients have the expected sign. The adjusted R-squared, a measure of goodness of fit to the data, for the regression is 0.97. However, the differences between the estimated values for parameters B1 and B2 and 1.0, the value implied by standard industry expectations, are not statistically significant. Therefore, we created a second model that constrains B1 and B2 to be equal to 1.0. This second model is represented by the following equation:

$$\text{Log (Value)} - \text{Log (Assets)} - \text{Log (Revenue/Assets)} = \text{Log (A)} + B3 * \text{Log (Operating Ratio)},$$

This "constrained" model yields the following revised estimates:

- A = 0.377
- B1 = 1.000
- B2 = 1.000
- B3 = -1.078

All coefficients in this model have the expected sign. The adjusted R-squared for the regression is 0.16.

Tables 11 and 12 show for the models the predicted purchase price for each of the comparable transactions and the BC Rail transaction versus the actual purchase prices, taking into account the adjustments discussed above that make all of the benchmark cases internally consistent. The unconstrained and constrained models yield estimated values for the BC Rail transaction of $701 million and $708 million, respectively, along with corresponding 95 percent confidence intervals. When compared with the industry rules of thumb discussed earlier, the corresponding revenue and earnings multipliers validate the econometric results.

Table 11—Predicted Versus Actual Purchase Price for Comparable Transactions: Unconstrained Model

	Regression Inputs				(CAD$ millions)		
Target	Log (Purchase Price)	Log (Assets)	Log (Revenue/ Assets)	Log (Operating Ratio)	Predicted Purchase Price[1]	95% Confidence Interval	Actual Purchase Price
Freight Australia	5.1298	8.0929	(3.4164)	0.0953	$205	$196~$215	$189
Illinois Central	7.9288	8.2889	(1.3460)	(0.3831)	$3,135	$3,110~$3,160	$2,776
Utah Railway Company	4.4602	6.3450	(2.7567)	(0.1654)	$81	$76~$85	$87
Emons Transportation	3.8622	6.1812	(2.5552)	(0.1654)	$76	$72~$80	$48
Wisconsin Central	7.1305	8.3415	(2.0250)	(0.2876)	$1,713	$1,695~$1,730	$1,250
Estonia	4.8784	6.6349	(1.9891)	(0.0604)	$139	$132~$146	$131
TFM	7.3479	8.2808	(1.3189)	(0.2798)	$2,432	$2,410~$2,454	$1,553
BC Rail[2]		**7.7269**	**(2.0452)**	**(0.2184)**	**$701**	**$694~$708**	**$750**
Coefficients		1.1060	0.6009	(2.4380)			
BC Rail revenue multiplier					2.39	2.37~2.41	2.56
BC Rail earnings multiplier					12.18	12.06~12.3	13.02

Notes:

[1] Calculated from the equation: Log (Purchase Price) = Sqrt (Exp (SER)) * [Log (Assets) + Log (Revenue / Assets) + Log (Operating Ratio)]. The inclusion of Sqrt (Exp (SER)) reflects an adjustment for additive bias, where SER = (Error Sum of Squares / Degrees of Freedom) = 0.2213 / 3 = 0.07377.

[2] BC Rail data were not part of the input for the regression.

All coefficients in this model have the expected sign. The adjusted R-squared for the regression is 0.16.

Tables 11 and 12 show for the models the predicted purchase price for each of the comparable transactions and the BC Rail transaction versus the actual purchase prices, taking into account the adjustments discussed above that make all of the benchmark cases internally consistent. The unconstrained and constrained models yield estimated values for the BC Rail transaction of $701 million and $708 million, respectively, along with corresponding 95 percent confidence intervals. When compared with the industry rules of thumb discussed earlier, the corresponding revenue and earnings multipliers validate the econometric results.

Table 11—Predicted Versus Actual Purchase Price for Comparable Transactions: Unconstrained Model

	Regression Inputs				(CAD$ millions)		
Target	Log (Purchase Price)	Log (Assets)	Log (Revenue/ Assets)	Log (Operating Ratio)	Predicted Purchase Price[1]	95% Confidence Interval	Actual Purchase Price
Freight Australia	5.1298	8.0929	(3.4164)	0.0953	$205	$196~$215	$169
Illinois Central	7.9288	8.2889	(1.3460)	(0.3831)	$3,135	$3,110~$3,160	$2,776
Utah Railway Company	4.4602	6.3450	(2.7567)	(0.1654)	$81	$76~$85	$87
Emons Transportation	3.8622	6.1812	(2.5552)	(0.1654)	$76	$72~$80	$48
Wisconsin Central	7.1305	8.3415	(2.0250)	(0.2876)	$1,713	$1,695~$1,730	$1,250
Estonia	4.8784	6.6349	(1.9891)	(0.0604)	$139	$132~$146	$131
TFM	7.3479	8.2808	(1.3189)	(0.2798)	$2,432	$2,410~$2,454	$1,553
BC Rail[2]		**7.7269**	**(2.0452)**	**(0.2184)**	**$701**	**$694~$708**	**$750**
Coefficients		1.1060	0.6009	(2.4380)			
BC Rail revenue multiplier					2.39	2.37~2.41	2.56
BC Rail earnings multiplier					12.18	12.06~12.3	13.02

Notes:

[1] Calculated from the equation: Log (Purchase Price) = Sqrt (Exp (SER)) * [Log (Assets) + Log (Revenue / Assets) + Log (Operating Ratio)]. The inclusion of Sqrt (Exp (SER)) reflects an adjustment for additive bias, where SER = (Error Sum of Squares / Degrees of Freedom) = 0.2213 / 3 = 0.7377.

[2] BC Rail data were not part of the input for the regression.

Table 12—Predicted Versus Actual Purchase Price for Comparable Transactions: Constrained Model

Target	Regression Inputs: Log (Purchase Price)	Log (Assets)	Log (Revenue/ Assets)	Log (Operating Ratio)	(CAD$ millions): Predicted Purchase Price[1]	95% Confidence Interval	Actual Purchase Price
Freight Australia	5.1298	8.0929	(3.4164)	0.0953	$174	$167~$182	$169
Illinois Central	7.9288	8.2889	(1.3460)	(0.3831)	$3,174	$3,148~$3,200	$2,776
Utah Railway Company	4.4602	6.3450	(2.7567)	(0.1654)	$75	$73~$78	$87
Emons Transportation	3.8622	6.1812	(2.5552)	(0.1654)	$78	$76~$81	$48
Wisconsin Central	7.1305	8.3415	(2.0250)	(0.2876)	$1,484	$1,471~$1,496	$1,250
Estonia	4.8784	6.6349	(1.9891)	(0.0604)	$201	$196~$206	$131
TFM	7.3479	8.2808	(1.3189)	(0.2798)	$2,882	$2,865~$2,900	$1,553
BC Rail[2]		**7.7269**	**(2.0452)**	**(0.2184)**	**$708**	**$701~$715**	**$750**
Coefficients[3]		1.0000	1.0000	(1.0783)			
BC Rail revenue multiplier					2.41	2.39~2.44	2.56
BC Rail earnings multiplier					12.30	12.17~12.42	13.02

Notes:

[1] Calculated from the equation: Log (Purchase Price) = Sqrt (Exp (SER)) * [Log (Assets) + Log (Revenue / Assets) + Log (Operating Ratio)]. The inclusion of Sqrt (Exp (SER)) reflects an adjustment for additive bias, where SER = (Error Sum of Squares / Degrees of Freedom) = 0.4181 / 5 = 0.08362.

[2] BC Rail data were not part of the input for the regression.

[3] This model constrained the coefficients of Log (Assets) and Log (Revenue / Assets). Please see text.

Figures 10 and 11 show graphically how the models predict purchase price as a function of revenue and operating ratio for this family of comparable transactions.

Figure 10—Graph of Predicted Versus Actual Purchase Price for Comparable Transactions: Unconstrained Model

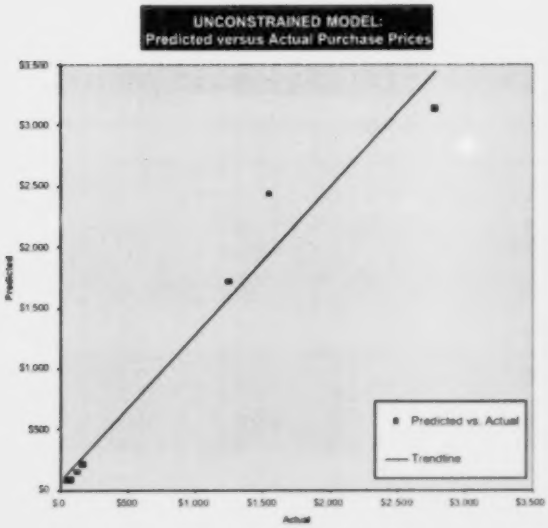


Figure 11—Graph of Predicted Versus Actual Purchase Price for Comparable Transactions: Constrained Model

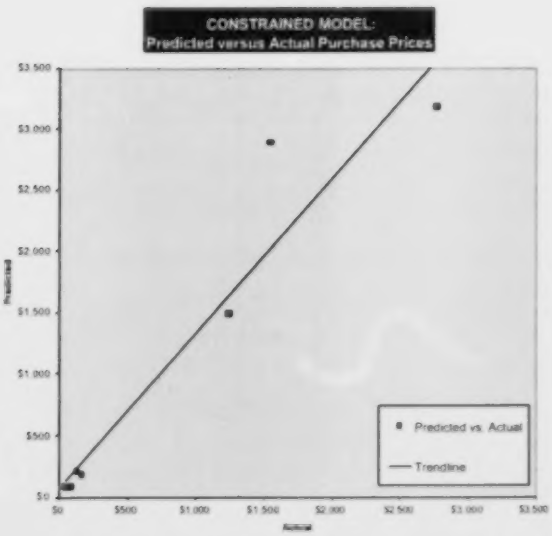


Table 12—Predicted Versus Actual Purchase Price for Comparable Transactions: Constrained Model

Target	Regression Inputs: Log (Purchase Price)	Log (Assets)	Log (Revenue/ Assets)	Log (Operating Ratio)	(CAD$ millions): Predicted Purchase Price[1]	95% Confidence Interval	Actual Purchase Price
Freight Australia	5.1298	8.0920	(3.4164)	0.0953	$174	$167~$182	$169
Illinois Central	7.9288	8.2889	(1.3460)	(0.3831)	$3,174	$3,148~$3,200	$2,776
Utah Railway Company	4.4602	6.3450	(2.7567)	(0.1654)	$75	$73~$78	$87
Emons Transportation	3.8622	6.1812	(2.5552)	(0.1654)	$78	$76~$81	$48
Wisconsin Central	7.1305	8.3415	(2.0250)	(0.2876)	$1,484	$1,471~$1,496	$1,250
Estonia	4.8784	6.6349	(1.9891)	(0.0604)	$201	$196~$206	$131
TFM	7.3479	8.2808	(1.3189)	(0.2798)	$2,882	$2,865~$2,900	$1,553
BC Rail[2]		**7.7269**	**(2.0452)**	**(0.2184)**	**$708**	**$701~$715**	**$750**
Coefficients[3]		1.0000	1.0000	(1.0783)			
BC Rail revenue multiplier					2.41	2.39~2.44	2.56
BC Rail earnings multiplier					12.30	12.17~12.42	13.02

Notes:

[1] Calculated from the equation: Log (Purchase Price) = Sqrt (Exp (SER)) * [Log (Assets) + Log (Revenue / Assets) + Log (Operating Ratio)]. The inclusion of Sqrt (Exp (SER)) reflects an adjustment for additive bias, where SER = (Error Sum of Squares / Degrees of Freedom) = 0.4181 / 5 = 0.08362.

[2] BC Rail data were not part of the input for the regression.

[3] This model constrained the coefficients of Log (Assets) and Log (Revenue / Assets). Please see text.

Figures 10 and 11 show graphically how the models predict purchase price as a function of revenue and operating ratio for this family of comparable transactions.

Figure 10—Graph of Predicted Versus Actual Purchase Price for Comparable Transactions: Unconstrained Model

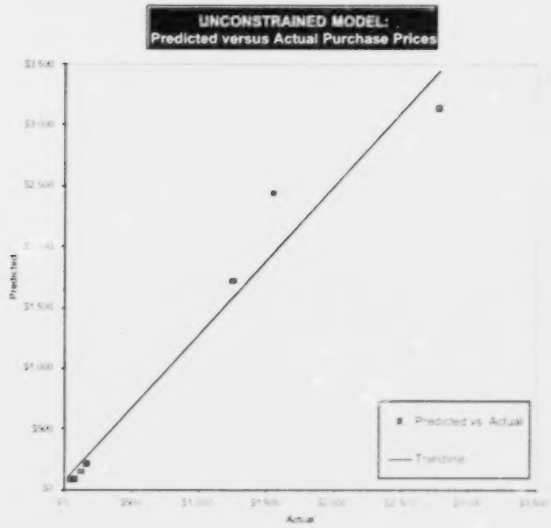
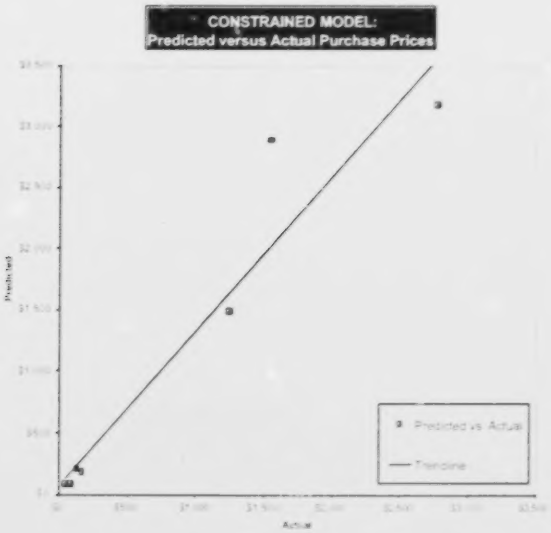


Figure 11—Graph of Predicted Versus Actual Purchase Price for Comparable Transactions: Constrained Model

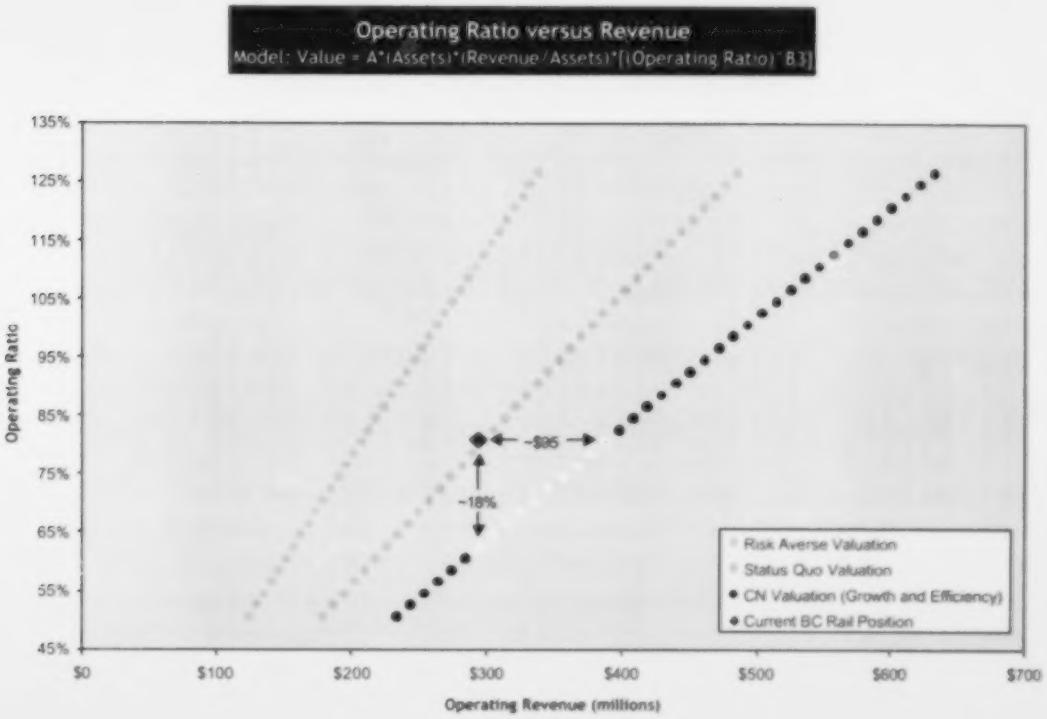


Although neither CRA nor the Province was privy to the specific cost and/or revenue forecasts that the selected proponent used to support its proposal, we used the constrained model to show the revenue and operating ratio mix that would be required to justify the proposal offer.[34] We inserted the actual CN purchase price of $750 million and two arbitrary purchase amounts of $400 million and $575 million (NOT equal to or otherwise related to the other two finalist purchase offers) into the model along with an array of operating ratio values that ranged from 50 percent to 126 percent. The model then projected the revenue that would be required at each level of operating efficiency for CN's purchase offer and the two other arbitrary purchase amounts.

The results of these projections are illustrated in Figure 12. The green dot indicates current levels of BC Rail's revenue and operating ratio. Note that CN's projections are to the right of BC Rail's current revenue/operating ratio. According to the model, CN's proposal requires an increase of around $95 million in revenue, a reduction in the operating ratio of approximately 18 percentage points, or some combination of cutting costs and raising revenue within the two numbers. Given CN's potential strategic fit, that level of revenue increase may be possible. On the other hand, if CN cannot increase revenue, there will have to be reductions in expenses. At the arbitrary purchase amount of $400 million, the line to the left of the current BC Rail data point represents a risk-averse proponent who would not anticipate aggressive changes in revenue or costs. At the other arbitrary price of $575 million, the line crossing the current BC Rail data point represents a proponent who would expect status quo operating levels to continue.

[34] The impact on purchase offer of non-capital loss carryforwards are outside of normal financial decision making and were not included in the model nor the estimates of value.

Figure 12—Graph of Operating Ratio and Revenue Trade-offs: Constrained Model with CN and Arbitrary Proposal Offers



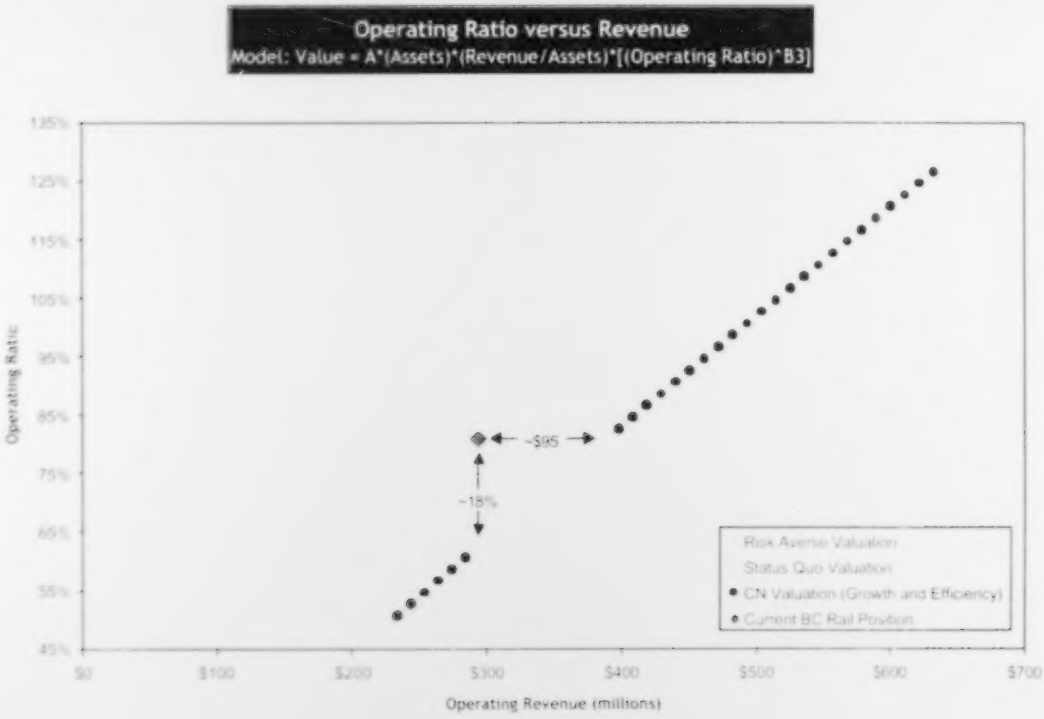
Source: CRA

Using the results from the constrained model, we therefore conclude that compared with recent, comparable transactions, the Province received a fair and reasonable financial value for the BC Rail operation.

4.4 CRA DISCOUNTED CASH FLOW MODEL AND ANALYSIS

To assess further if the Province received fair and reasonable value for BC Rail, CRA first examined the value of the transaction vis-à-vis other, similar transactions. However, while the models above offer a commentary on value from the point of view of the financial markets as measured against other benchmarks, that alone is an insufficient measure of fairness and

Figure 12—Graph of Operating Ratio and Revenue Trade-offs: Constrained Model with CN and Arbitrary Proposal Offers



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reasonableness. This section discusses our evaluation of the transaction value versus the value that the Province as shareholder would have expected to receive had the Province maintained BC Rail operations within the Crown Corporation.

To meet the test of being fair and reasonable, the proposed transaction value must at least exceed the expected value of the "do nothing" or "no private operating partner" alternative. In addition, assuming that the transaction is expected to create value for the acquiring company, the Province as shareholder has claim to a portion of that newly created value. The transaction price must exceed the status quo value that the Province otherwise would have expected to earn from BC Rail's operations.

In this section, we evaluate the BC Rail business value by analyzing the future expected cash flows from operations when viewed as a stand-alone, ongoing concern, using BC Rail management's internal forecasts. We adjusted the forecast of expected cash flows to represent the financial performance of the business as operated by a private company partner. Some of these adjustments were necessary to reflect the differences between a Crown Corporation and a private enterprise. Finally, for each potential transaction scenario, we calculated the net present value (NPV) of future cash flows adjusted for a range of known risk factors.

4.4.1 BC Rail Income Statement

The Confidential Information Memorandum (CIM) provided to each of the proponents contained BC Rail management historical income statements for the periods from 1999 to 2003 (estimated).

BC Rail attributes its revenue to four major categories: forest products, bulk products, reload, and other. The largest source of revenue comes from BC Rail freight services for forest products. During the period presented, total revenue fluctuated between $272 million and $296 million, with a 2003 end-of-year forecast of $293 million.

Operating expenses comprise costs for maintenance, operations and transportation, fuel, mishaps, and reload. These ranged between $195 million in 2000 and $161 million in 2002. General and administrative expenses likewise fluctuated significantly between 1999 and 2003. The largest drivers were changes in administration costs and pension adjustments.

Depreciation/amortization remained relatively constant between $33 million and $40 million. Overall, BC Rail saw operating ratios of 77 percent to 90 percent during the period.

4.4.2 CIBCWM Adjustments

As the transaction advisor, CIBCWM reviewed BC Rail's 2003 outlook and suggested a series of adjustments. CIBCWM applied these adjustments to the year-end EBITDA outlook for 2003. They included items reflecting additional expenses and taxes related to private ownership, as well as changes for non-cash items, as listed in Figure 13.

Figure 13—Earnings Adjustments

($ millions)	
Less:	
Reversal of non-cash pension income	(7.4)
Net incremental municipal taxes	(6.5)
Incremental rent at BC Rail Centre	(0.7)
Incremental impact of coal traffic	(1.8)
Normalized pension expense assuming no holiday	(5.0)
	(21.4)
Add Back:	
Overstatement of SERP expense[1]	1.3

[1] Includes expense related only to active members of the Plan at BC Rail.

Source (data/graphic theme): CIBCWM

The "Reversal of non-cash pension income" adjustment ensures that only cash expenses are considered. The municipal tax item was applied to reflect the cost of full property taxes that will be paid by a private owner. The municipal tax is not equal to total tax owed but is a net number representing costs in excess of the grants-in-lieu that Crown Corporations traditionally give to local communities. Rent for the BC Rail Centre originally was not included in income statement forecasts. Since the headquarters building will not be divested in the transaction, CIBCWM assumed the new operator would require that or equivalent office space at some expense. At the time of CIBCWM's adjustments, coal traffic was expected to cease by the end of the year. CIBCWM normalized pension expense to reflect the fact that BC Rail would not have a permanent pension holiday. Lastly, CIBCWM corrected an overstatement of SERP expense, according to the expectation of BC Rail management that only active members of the plan would be included in the transaction.

We accept all of CIBCWM's adjustments for 2003 as appropriate and necessary, except for the revisions for coal traffic. When CRA received BC Rail's updated income statement for 2003, it was based on actual data through the third quarter of the year and projected no coal revenue for the fourth quarter. Thus, we have excluded this adjustment on the belief that the end to coal traffic was properly incorporated into BC Rail's financial plan.

BC Rail expects to report an operating ratio of 74.1 percent for the year 2003. With these adjustments, BC Rail's operating ratio for 2003 as measured on an equivalent basis with other private railroad companies is calculated at 80.4 percent.[35]

4.4.3 BC Rail Management Forecast

The CIM also contained management forecasts of revenue and expenses for 2004 through 2007. We used these same data first to assess the validity of the forecast and then to predict future cash flow scenarios for the BC Rail business. Using the traditional Crown Corporation financial measures, the company expects a 2004 operating ratio of 79.2 percent, 5.1 percent higher than in 2003. From 2005 to 2007, the operating ratio slowly declines from 78.6 percent to 77.9 percent.

Revenue in 2004 is expected to be significantly lower than BC Rail's year-end outlook for 2003. This drop stems from large decreases in expected revenue from coal, sulphur, and other bulk products excluding grain. Increases in revenue in 2005 and 2007 result from higher projected shipping rates (increases in the price per ton) for forest products, with volumes being constant. Coal shipments cease permanently beginning in 2004, and sulphur, grain, and other bulk products shipments and revenue are held constant from 2004 to 2007.

Over the next four years, BC Rail anticipates relatively little movement in operating, general, and administrative expenses. On average, operating expenses for operations, transportation, fuel, and mishaps increase between 2003 and 2007, while maintenance and reload expenses decrease over the same period. Overall, BC Rail expects operating expenses in 2007 to be about one percent higher than in 2003.

General and administrative expenses are expected to increase, with 2007 expenses estimated at five percent above those in 2003. This change can be attributed to projected annual reductions in post-retirement plan adjustments.

Forecasted depreciation/amortization increases gradually during the outlook period with a 2007 amount of $38.7 million.

[35] In some of the media coverage surrounding the BC Rail transaction, there were references to BC Rail having the "best operating ratio of any North American railroad," which is inaccurate when the comparison employs consistent definitions.

4.4.3.1 Forecast of Revenues

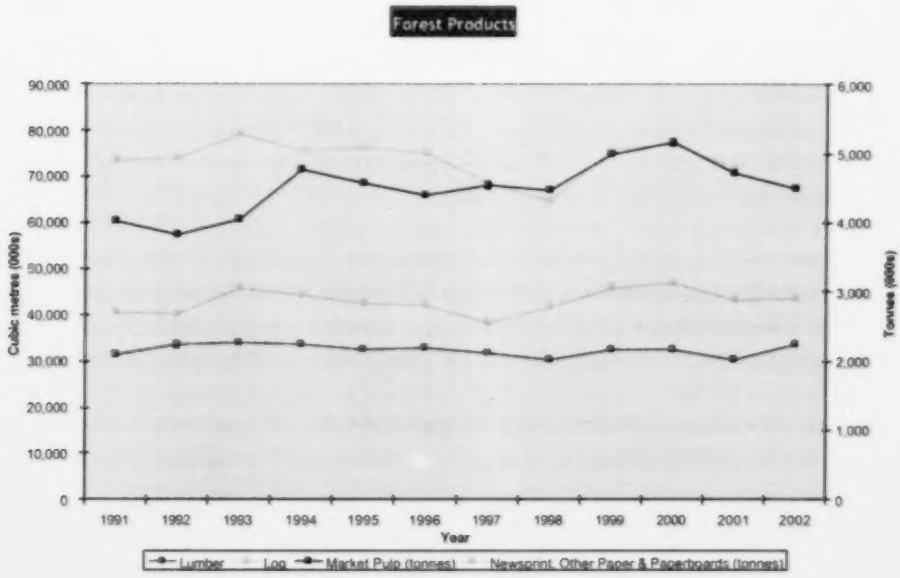
Production volumes in British Columbia for the commodities typically shipped by BC Rail have varied in the past, as shown in Table 13. Figure 14 shows historical production of forest products within the province.

Table 13—Selected Economic Statistics for British Columbia

INDICATOR	UNITS	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
COMMODITY DATA													
Lumber production	(000) m^3	31,406	33,346	33,935	33,971	32,611	32,671	31,982	30,238	32,597	32,362	30,192	33,965
Log production (timber scale billed)	(000) m^3	73,677	74,008	79,239	75,849	78,472	75,213	68,628	64,987	75,897	78,984	72,009	
Market pulp shipments	(000) tonnes	4,014	3,815	4,040	4,753	4,572	4,380	4,532	4,482	4,995	5,152	4,710	4,493
Newsprint, other paper & paperboard	(000) tonnes	2,721	2,692	3,067	2,947	2,936	2,918	2,570	2,791	3,069	3,126	2,879	2,897
Coal production	(000) tonnes	24,848	18,094	19,482	22,966	24,515	26,179	27,812	25,305	24,910	28,152	26,482	
Solid mineral production	$millions	$2,755	$2,601	$2,410	$2,577	$3,437	$3,087	$3,130	$3,025	$2,985	$2,879	$2,995	
Petroleum & natural gas production	$millions	$858	$890	$1,080	$1,270	$1,040	$1,333	$1,588	$1,573	$2,081	$5,010	$6,158	

Sources:
Statistics Canada, Supenntendent of Bankruptcy, Canadian Pulp and Paper Association, Ministry of Energy Mines, BCSTATS. Produced by: BCSTATS.
http://www.bcstats.gov.bc.ca/data/dd/handout/selecon.pdf.

Figure 14—Graph of British Columbia Production of Forest Products



Source: Table 13

BC Rail's historical traffic volumes have fluctuated within individual commodity groups, while overall revenue tons have decreased over the last five years. Part of this decrease was due to BC Rail's decision to exit the intermodal business. After forecasting an initial drop in expected

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INDICATOR	UNITS	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
COMMODITY DATA													
Lumber production	(000 m^3)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Log production (timber scaled)	(000 m^3)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Market pulp shipments	(000 tonnes)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Newsprint, other paper & paperboard	(000 tonnes)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Coal production	(000 tonnes)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Gold mineral production	$millions	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Aluminum & silicon alloy production	$millions	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

Notes:

Statistics Canada, Superintendent of Bankruptcy, Canadian Pulp and Paper Association, Ministry of Energy, Mines, BC STATS. Produced by BC STATS.

http://www.bcstats.gov.bc.ca/data/bs/sbd/sbd-index.pdf

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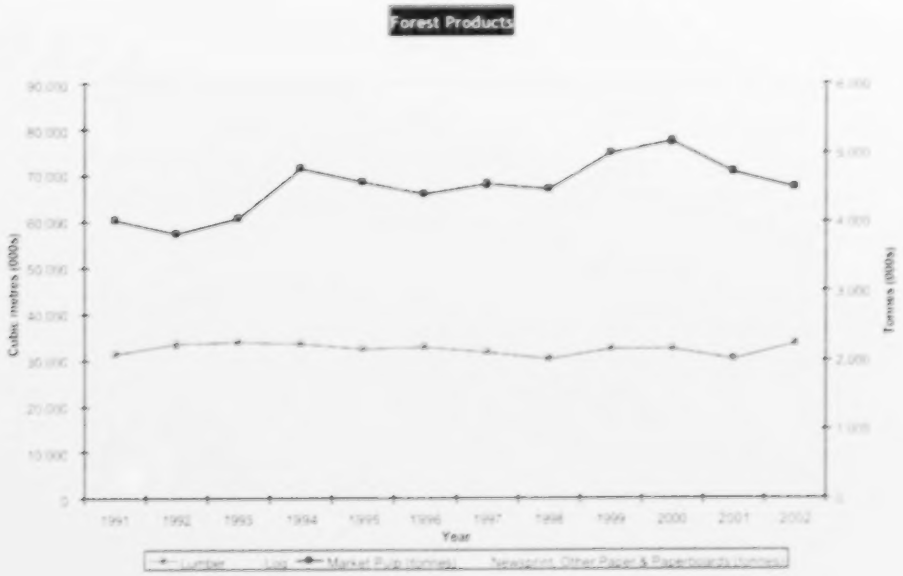

Source: Table 13

BC Rail's historical traffic volumes have fluctuated within individual commodity groups, while overall revenue tons have decreased over the last five years. Part of this decrease was due to BC Rail's decision to exit the intermodal business. After forecasting an initial drop in expected

revenue for 2004, BC Rail expects carload volumes to remain at status quo levels, at least within the near future. Consequently, the outlook for 2004-2007 revenues is rather conservative, closely matching a median revenue amount from the past five years. For the purposes of our forecast, we assumed the 2003 outlook to be an accurate representation of 2003. For 2004 to 2007, we use BC Rail's forecast as a starting point for revenue estimates, but vary our forecast from that baseline as discussed below.

Once the BC Rail network operations are transferred to the successful proponent, there should be additional growth in revenue resulting from the synergies created by joining two rail networks. Some of the growth will come from incremental traffic diverted to the new network from other railroads. As operator, the proponent will have the ability to offer new routes to some shippers, bringing their freight from origin to destination much faster and possibly over a shorter distance. Many of these shippers likely will switch carriers and send their goods on these new, faster routes to lower their freight costs as well as to take advantage of decreases in the risks of product damage from handling and trip delays at interchange points.

The combined network also should make rail a more competitive option to truck shipping. By eliminating the interchange activity and building new, direct blocks, the railroad service should become both faster and more reliable compared with truck. In addition, the lower cost basis of the new company should enable aggressive price competition with the trucks. BC Rail chose to exit the intermodal business because it was losing money. The new operator very well may be able to employ more modern intermodal technology, take advantage of intermodal management and marketing experience and expertise, and reintroduce a profitable intermodal product on the BC Rail network. As a result of better carload service and the potential for efficient intermodal operations, a significant diversion of freight from highway to rail could be expected as a result of the BC Rail transaction.

The improved rail service should make BC industries more competitive in the North American and global markets. With more reliable and efficient freight rail service available within the province, key ports and interchange points should become more accessible to British Columbia producers. Shippers then should be able to extend the geographic reach within which they can effectively compete with other producers, thereby garnering and subsequently moving a greater share of their product's market over the newly combined rail network.

The magnitude of growth in revenue from these synergies, as well as the time it will take for full realization, depends on the shippers' economics for switching from other rail carriers or truck carriers to the combined network. Also, market conditions will affect how much improvement British Columbia shippers will see in their competitive positions and how long it will take for the effects of this improvement to shift market shares. We estimate that revenue growth due to synergies may increase revenue between five and fifteen percent compared with

2003. We predict the transition period to fully realize the growth potential will extend from two to four years.

The railroad industry has experienced carload growth of two to three percent carload over the last decade. There is no reason to believe that this general trend will not continue and extend to BC Rail markets. On the downside, there is a risk associated with the Canadian softwood lumber dispute that may suppress traffic in the short term, but we have chosen to view this as an exception and not an important element in the long term forecast of revenue.

In summary, we believe BC Rail revenue at a minimum will be relatively flat over the next five years, as predicted by BC Rail management. In light of the historical fluctuation in commodity production, we believe this is a good first approximation. We also believe that revenue has the potential to grow as much as fifteen percent due to the benefits of the new, combined operation. Beyond 2007, we expect BC Rail revenues to grow at an approximate rate of two percent per year.

4.4.3.2 Forecast of Operating Expenses

In discussions with BC Rail management and based on our review of BC Rail operations, it appears that management's expense forecast as listed in the CIM is conservative. There are a number of cost-saving measures already in place that we would expect to continue to generate increased savings into 2007. For example, BC Rail has shown continuous improvement in the area of track and equipment maintenance. We do not believe this success has reached a plateau or that all of the opportunities have been exploited. The BC Rail safety record has shown dramatic improvements, and we anticipate that many of the financial benefits of this improvement will continue to accrue into the future. Finally, at the time the forecast was written, BC Rail management was in collective bargaining negotiation with the unions and did not have a firm forecast of future labour costs.

Based on current trends in the rail industry and our expert opinion of rail operations, we believe there are some significant opportunities to eliminate costs that probably would have been pursued had operations remained under the Crown Corporation. These strategic decisions include:

- Closing the Squamish locomotive shop
- Expanding the use of belt-pack technology
- Dramatic reduction of G&A expenses

- Expanding of 286,000-pound gross weight rail cars, particularly through the use of drop-deck centrebeam lumber cars

BC Rail management's forecasts for expenses combined with those for revenues yield operating ratios between 79.2 percent in 2004 and 77.9 percent in 2007, as discussed in section 4.4.3. The operating ratio clearly will change as a result of the transition to a private operator. As the new operator introduces its standard methods, systems, and technology, the BC Rail production function increasingly should reflect the buyer's cost performance as the two operations increasingly become integrated. One would expect that the BC Rail operating ratio will tend to reflect that of the new owner. In addition, operating synergies, elimination of duplicate overhead functions, and expected incremental revenues will all contribute to an improved operating ratio.

The final proponents posted 2002 operating ratios in the range of 68 to 81 percent, while BC Rail recorded an adjusted operating ratio of 80 percent. These limits provide a relevant range of operating ratios for the new operator of the BC Rail network. As with the synergy-related growth in revenue, we expect that the new operator will require a transition period of between two and four years to implement the changes necessary to support the more efficient cost structure.

4.4.3.3 Forecast of Capital Expenditures

From 1999 to 2002, BC Rail made significant capital expenditures for upgrades to rolling stock and other improvements. These expenditures were between $39 million and $77 million per year. In the near future, BC Rail management does not expect to carry out any significant capital projects. Consequently, BC Rail expects annual capital expenditures to range between $35 million and $40 million over the next five years.

BC Rail's average expected annual depreciation and amortization is $38.5 million for the period from 2004 to 2007. Given the $35-$50 million range for capital expenditures, we believe that depreciation and amortization serves as a good benchmark for capital expenditures in the next four years. Beyond 2007, we assumed annual capital expenditures to remain constant and equal to depreciation and amortization as forecasted for 2007.

4.4.3.4 Forecast of Taxes

The new operator of the BC Rail will be subject to the Canadian federal corporate income tax of 24.1 percent.[36] Each province also levies a corporate tax, charging its own rate on the

[36] URL: http://www.csc.gov.bc.ca/ProgramsAndServices/Invest_in_British_Columbia/11-tax_facts.pdf.

portion of income earned within its respective geographic areas. For example, British Columbia provincial income tax currently is 13.5 percent.[37] We have assumed that a provincial and federal combined income tax rate of 38 percent will be applied toward the operator's taxable income.[38] We recognize that the acquirer may shield a significant portion of income for tax purposes through the application of non-capital loss carry forwards (NOLs) and undepreciated capital costs (UCC). Historically, BC Rail has paid no income tax because of its relatively large backlog of NOLs and UCCs. We did not attempt to model the prospective tax strategies of an acquiring company. Consequently, the DCF model output reflects a conservative view of purchase price, which may increase depending on a particular proponent's ability to take advantage of the income tax shields.

4.4.3.5 Forecast Adjustments as Applied by CIBCWM

Of the six adjustments made by CIBCWM to income, we have assumed that five should be carried in perpetuity for purposes of a long-term forecast for private operation of BC Rail: "Reversal of non-cash pension income," "Net incremental municipal taxes," "Incremental rent at BC Rail Centre," "Normalized pension expense assuming no holiday," and "Overstatement of SERP Expense." Because coal traffic has ceased completely, we did not forecast any coal revenues for 2004 and beyond.

4.4.3.6 Forecast of Discount Rate

Our forecast and thus our discounted cash flow model are structured on a 60-year planning horizon beginning in 2004. The net present value of the future cash flows is stated in current 2003 dollars using a range of discount rates from 9.8 percent to 11.8 percent explained below.

Every year, the Surface Transportation Board (STB) of the U.S. Department of Transportation calculates a railroad industry cost of capital for Class I railroads for the previous year. The STB 2002 cost of capital is 9.8 percent.[39] Given that both of Canada's Class I railroads have operations in the United States and that there is a substantial amount of rail traffic between Canada and the United States, we believe this cost of capital is an appropriate benchmark for discounting future cash flows.

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[37] Ibid.

[38] CIBCWM's presentation to the Evaluation Committee on September 19, 2003, lists an expected combined Federal and Provincial tax rate of 38 percent.

[39] URL: http://www.stb.dot.gov/decisions/ReadingRoom.nsf/83fd59cf17adc80785256559007ba132/f81a7304161e3b3785256d4c0051e319/$FILE/33682.pdf.

There are some unique attributes of this transaction that set it apart from a standard railroad business model. Each of these nuances represents a potential financial risk that generally is reflected in these kinds of analyses by using a higher discount rate. We believe a two percent incremental increase over the STB industry base rate adequately represents the risks associated with the BC Rail operation. It is likely that each of the proponents internally developed their own view of risk and might have placed a higher or lower value on these items. Some of these potential risk areas are discussed in more detail elsewhere in this report and include the following:

- Possible disruptions related to First Nations land claims
- Softwood lumber trade dispute
- Coal market
- CTA rulings
- Competition Bureau rulings
- Concentration of traffic portfolio

4.4.4 CRA Discounted Cash Flow Model Results

CRA used the assumptions and reasonable input ranges described above to forecast future BC Rail cash flows for 60 years under a variety of possible scenarios. We then used this cash flow forecast in a discounted cash flow (DCF) model and performed a valuation of the BC Rail operating concession.

It is important to note that our valuation takes a long-term view and, as such, recognizes that short-term positive or negative influences will not affect performance as measured over the planning horizon. Additionally, our evaluation does not produce the mythical "exact" answer. The railroad business is uncertain, and it was appropriate to apply a range of plausible assumptions in our DCF model, yielding a spectrum of reasonable value for the BC Rail operating concession. The purpose of the exercise was to reduce the range of uncertainty and show with some confidence that the transaction value exceeds the value that would have been expected from a status quo operation.

The scenarios that were applied to the DCF model are discussed and summarized in the following sections. In all scenarios, we set capital expenditures equal to

depreciation/amortization as forecasted by BC Rail through 2007 and held them constant thereafter.

4.4.4.1 Scenario 1: No Transfer of BC Rail Operations—BC Rail Forecast Used

This scenario determines the value of the BC Rail operations under the status quo, given BC Rail's revenue and expense forecasts. Consistent with management's conservative expectations of revenue and expenses discussed earlier, we held revenue and expenses constant after 2007. The CIBCWM adjustments applied in this scenario are those that would be relevant under continued operations of the BC Rail network by BC Rail: "Reversal of non-cash pension income" and "Normalized pension expense assuming no holiday." We did not forecast any taxes for the Crown Corporation. We used a discount rate equal to the STB's 2002 railroad cost of capital, believing that BC Rail management understands the future risk potential in the industry and related commodity markets.

4.4.4.2 Scenario 2: No Transfer of BC Rail Operations—BC Rail Forecast Adjusted by CRA

In this scenario, CRA adjusted BC Rail's forecasts using our expert judgment. We used 2004 to 2007 revenues as projected by BC Rail. We applied an annual growth rate of two percent to revenues starting in 2008 and continuing to the end of the forecast, based on our opinion that the industry will experience average growth of this magnitude in the long term. We believe that expenses would have decreased relative to revenues based on an improved operating ratio. We applied a one-percentage point improvement in operating ratio each year through 2007 and determined the total expense amount necessary to yield those adjusted operating ratios. From 2008 to the end of the forecast, we assumed a constant operating ratio of 74.4 percent and derived expenses accordingly. The same CIBCWM adjustments and tax assumption were used as in Scenario 1. We do not have the same knowledge or confidence regarding risk factors as BC Rail management, reflected in the addition of two percentage points to the STB's 2002 cost of capital, yielding an input discount rate of 11.8 percent.

4.4.4.3 Scenario 3: Transfer of BC Rail Operations—CRA Forecast (Low)

We calibrated Scenario 3 to reflect a low estimate of the value of the BC Rail operations under new management. We assume that a new operator would be able to increase revenue significantly as discussed in section 4.4.3.1. In this scenario, we used a synergy-driven growth rate of five percent spread over four years from 2004 through 2007. After 2007, we applied an annual growth of two percent in revenue. We also assume that a new operator would experience operational synergies, resulting in improved operating ratios. We applied a four-

year transitional improvement to the adjusted BC Rail 2003 expected operating ratio such that the 2007 operating ratio would be equal to CN's operating ratio prior to its merger with Wisconsin Central.[80] We subsequently calculated the necessary expenses to yield the corresponding ratios for 2003 to 2007. From 2008 to the end of the forecast, we held the new operating ratio constant and derived the associated expenses. In addition to the CIBCWM adjustments used in the first two scenarios, we added the elements that relate to the private operation of the BC Rail network: "Net incremental municipal taxes," "Incremental rent at BC Rail Centre," and "Overstatement of SERP expense." As a private operator, the acquirer of BC Rail also will be subject to federal and provincial taxes. We used CIBCWM's figure for combined tax rate of 38 percent. To reflect the new operator's potential exposure to risks, we added two percentage points to the STB's 2002 cost of capital (yielding an input of 11.8 percent).

4.4.4.4 Scenario 4: Transfer of BC Rail Operations—CRA Forecast (High)

This scenario represents CRA's view of the best situation that could result from the transfer of BC Rail operations. We forecasted 15 percent growth in revenue from 2004 to 2007 as well as two percent annual growth post-2007. We included an aggressive cost reduction such that the operating ratio decreases to CN's best historical performance after just two years of integration implementation. We sustained the new level of performance indefinitely through the remainder of the forecast horizon. We applied the same CIBCWM adjustments and tax rate as in Scenario 3. Finally, we assumed that the new operator is willing to tolerate the risk factors, and we applied the STB's 2002 cost of capital for railroads of 9.8 percent.

4.4.4.5 Summary of Scenarios and Associated Values

Using the assumptions discussed above, our models indicate the value of the BC Rail operations is between $505 and $770 million. Table 14 outlines the input factors used for each scenario and the corresponding output NPV value calculated by the DCF model.

[80] In 2001, prior to the merger with Wisconsin Central, CN achieved an operating ratio of 68.5 percent. We believe CN will again attain this level of performance once integration of the rail networks is completed.

Table 14—Scenario Inputs and Results

Item	Scenario 1 BC Rail forecast for status quo	Scenario 2 CRA adjusted BC Rail forecast for status quo	Scenario 3 CRA forecast for CN as operator [illegible]	Scenario 4 CRA forecast for CN as operator [illegible]
2004-2007 revenue	BC Rail forecast	BC Rail forecast	5% growth	15% growth
2004-2007 revenue transition	N/A	N/A	4 years	2 years
2008+ revenue	Flat	2% annual growth	2% annual growth	2% annual growth
2004-2007 operating ratio	BC Rail forecast	4%-point improvement	68.5%	68.5%
2004-2007 transition	N/A	4 years	4 years	2 years
2008+ operating ratio	Flat	Flat	Flat	Flat
2004-2007 capital expenditures	BC Rail forecast	BC Rail forecast	BC Rail forecast	BC Rail forecast
2008+ capital expenditures	Flat	Flat	Flat	Flat
Tax rate	0%	0%	38%	38%
Discount rate	9.8%	11.8%	11.8%	9.8%
Net present value (millions)	**$595**	**$689**	**$545**	**$770**

We conclude that the financial value of the BC Rail transaction as reflected in the final purchase price of $750 for the operations exceeds the value anticipated by the rather conservative BC Rail management status quo forecast represented in Scenario 1. Furthermore, we conclude that the final purchase price exceeds the value anticipated by CRA under a more likely scenario of status quo operations in Scenario 2. Consequently, in comparison to the values for Scenarios 3 and 4 for private operation of BC Rail, we believe that the Province as shareholder received a fair and reasonable financial value for the BC Rail operating concession.

4.5 NET TRANSACTION VALUE

The financial value obtained by the Province is largely driven by the purchase price received from the successful proponent. A summary of the various purchases prices as predicted by CIBCWM's and CRA's models and analyses is presented in Figure 15.

Table 14—Scenario Inputs and Results

Item	Scenario 1 BC Rail forecast for status quo	Scenario 2 CRA-adjusted BC Rail forecast for status quo	Scenario 3 CRA forecast for CN as operator (LOW estimate)	Scenario 4 CRA forecast for CN as operator (HIGH estimate)
2004-2007 revenue	BC Rail forecast	BC Rail forecast	[illegible] growth	[illegible] growth
2004-2007 revenue transition	N/A	N/A	[illegible] years	2 years
2008+ revenue	Flat	2% annual growth	2% annual growth	2% annual growth
2004-2007 operating ratio	BC Rail forecast	4 [illegible] improvement	[illegible]	[illegible]
2004-2007 transition	N/A	4 years	[illegible] years	2 years
2008+ operating ratio	Flat	Flat	Flat	Flat
2004-2007 capital expenditures	BC Rail forecast	BC Rail forecast	BC Rail forecast	BC Rail forecast
2008+ capital expenditures	Flat	Flat	Flat	Flat
Tax rate	[illegible]	[illegible]	[illegible]	[illegible]
Discount rate	[illegible]	[illegible]	[illegible]	[illegible]
Net present value (millions)	$505	$689	$545	$770

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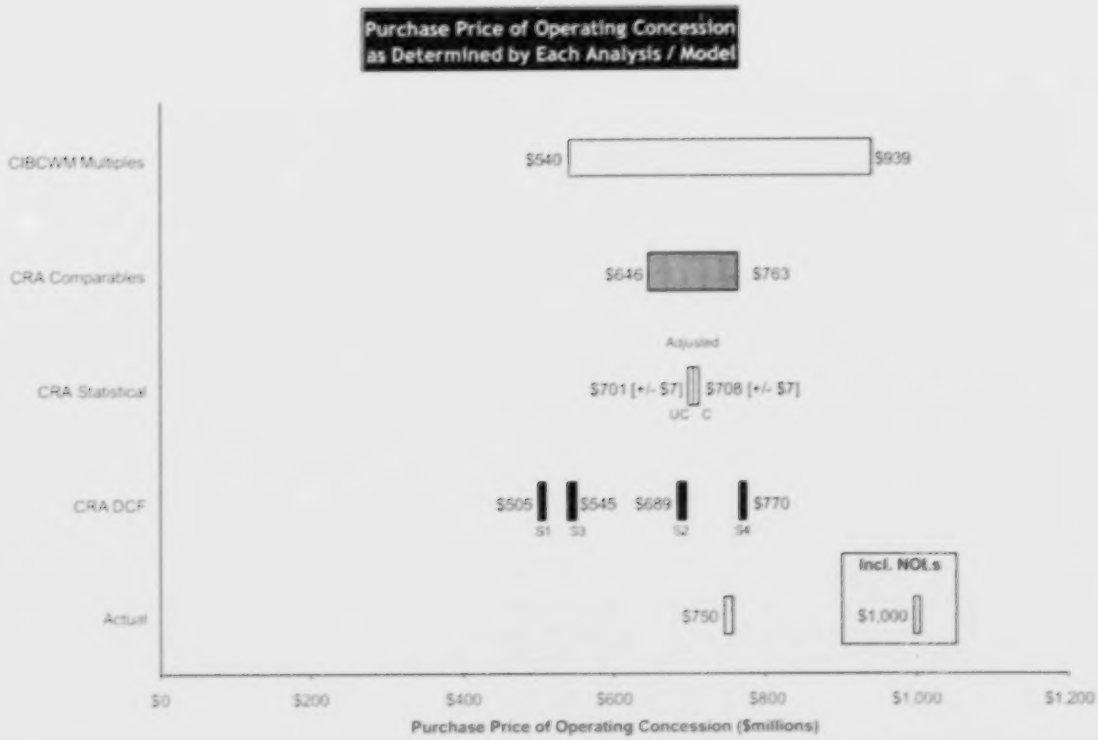
Figure 15—Summary of Results CIBCWM and CRA Analyses of Transaction Purchase Price



The next sections review the broader financial implications of the BC Rail transaction to the Province. However, impacts on provincial income tax revenue also must be included in the total valuation. In addition, if the Province continued to operate BC Rail, there would be an expectation of positive income from rail operations. The NPV of the status quo scenario must be deducted from the purchase price to quantify the incremental gain. Finally, one of the Province's primary motivations for seeking an operating partner was to pay off the $502 million of BC Rail debt. By eliminating the cost of servicing this debt, the Province will save approximately $30 million per year.[41]

[41] "Four finalists picked to acquire B.C. Rail." *Platts Coal Outlook*, July 21, 2003. The McGraw-Hill Companies, Inc.

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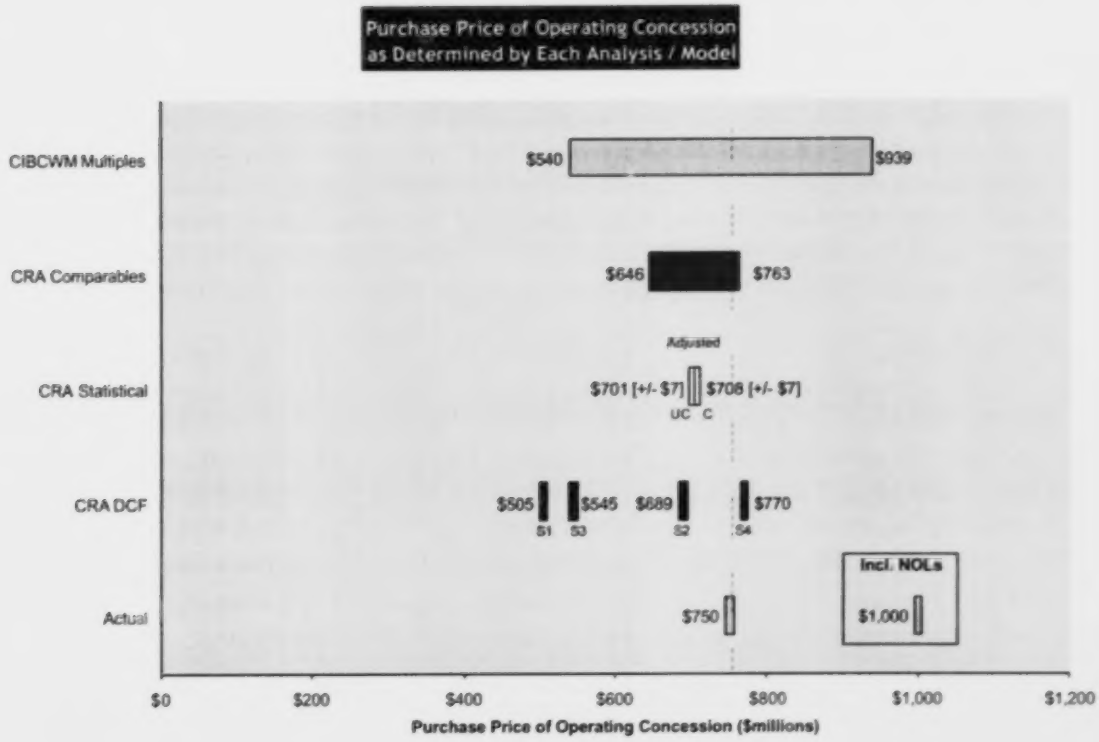

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[41] "Four finalists picked to acquire B.C. Rail." *Platts Coal Outlook*. July 21, 2003. The McGraw-Hill Companies, Inc.

4.5.1 Non-Capital Loss Carryforwards

The BC Rail transaction encompasses two items. The first is the sale of the operating concession. The second is the sale of a financial instrument, the non-capital loss carry-forwards (NOLs) of approximately $850 million. Whereas CRA is qualified to comment on the railroad operations offering, we cannot offer much insight on the sale price of the NOLs. The ability to use NOLs varies from corporation to corporation and we are not privy to the detailed data that would be required to assess a particular company's situation.

Specialized tax advisors are required to analyse the details of previous tax returns, tax depreciation schedules, special tax incentives, and the overall structure of the tax books. Two corporations, using the same generally accepted accounting principles (GAAP), could adopt different tax strategies concerning the aggressiveness of write-offs or deductions because of varying circumstances.

It is our understanding the Province did compare the sale price of the NOLs to the potential future tax revenue that would be generated for the Province if the acquiring company did not have access to BC Rail's NOLs. It is our understanding that the price offered by the final proposal for the NOLs of $250 million far exceeded the NPV of any forgone provincial tax revenue estimated at $8-$10 million,[42] thereby affirming the decision to include the NOLs as part of the BC Rail transaction.

4.5.2 Economic Value of Future Income Taxes

To determine the total financial value gained by the Province in the BC Rail transaction, we must incorporate all of the sources of potential income, including any impact on income tax revenue the transaction may entail. In addition to the NOLs, BC Rail also is conveying to CN about $1.2 billion of un-depreciated capital costs (UCCs). While we do not know how CN intends to apply these tax shields at the federal level or in any other province, it is safe to assume that there is sufficient inventory of NOLs and UCCs to offset CN's income tax obligations to the Province of British Columbia for at least the next 25 years.[43] The NPV of any future income tax revenue after 25 years is negligible when compared to the total purchase price of $1 billion.

However, we must also examine the opportunity cost of lost income taxes from CN, had they not been the successful proponent. Historically, CN paid provincial income taxes on earnings

[42] Interview with Robert Kopstein of BLG, November 26, 2003.

[43] Ibid.

associated with the CN operations at Vancouver, and between Prince George and Prince Rupert. We can assume that in the future, CN will use the NOLs and UCCs acquired as part of the BC Rail transaction to avert paying those taxes. As such, we believe that by agreeing to the BC Rail transaction, the Province is losing future tax income of between $6.4 million and $7.0 million.[11] This loss is an economic opportunity cost that must be shown to offset the final net transaction value.

4.5.3 Determining Net Value to the Province

Throughout the transaction process, a number of reports suggested that the Province's long-term financial position may have been better under the status quo without the BC Rail restructuring. We agree that the transaction value of $1 billion must be compared to the "but for" world in order to assess the net financial value achieved by the Province. Table 15 shows CRA's derivation of net value gained by the Province from the BC Rail transaction. In our estimation, the restructuring of the BC Rail Freight Division provided the Province a significant net value increase of between $796 million and $983 million more than if the BC Rail transaction had not occurred. This value will be enhanced further upon the completion of the BC Rail Port Subdivision transaction.

Table 15—Net Transaction Value

Source of Income	Estimated Value
Purchase price of operating concession	$750 million
Purchase price of NOLs	$250 million
NPV: elimination of BC Rail debt service	$502 million
NPV: forgone BC Rail income tax from NOL sale	($8 - $10 million)
NPV: opportunity cost of historical CN income tax	($6 - $7 million)
NPV: expected cash flows from status quo operations	($505 - $689 million)
Net financial value gained by Province	**$796 - $983 million**

4.6 CONCLUSIONS REGARDING FINANCIAL VALUE

As a result of this transaction, the Province will receive value in the form of CN's purchase price for the operations and associated NOLs and UCCs.

[11] NPV range of CRA estimated future taxes for CN.

associated with the CN operations at Vancouver, and between Prince George and Prince Rupert. We can assume that in the future, CN will use the NOLs and UCCs acquired as part of the BC Rail transaction to avert paying those taxes. As such, we believe that by agreeing to the BC Rail transaction, the Province is losing future tax income of between $6.4 million and $7.0 million.[44] This loss is an economic opportunity cost that must be shown to offset the final net transaction value.

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[44] NPV range of CRA-estimated future taxes for CN.

Review of Financial Value to the Province as Shareholder

As the selected proponent, CN will receive operating rights on the BC Rail network partially in exchange for a payment equal to CN's monetary expectation of the operations. CRA's comparables review indicated that the operations are worth between $646 million and $763 million. Our regression models predicted purchase prices of $701 million and $708 million with confidence intervals of plus or minus $7 million. Finally, our discounted cash flow model scenarios provided an upper bound of $770 million. Each of these values when compared to the agreed-upon price of $750 million for BC Rail's operations suggests that CN valued the operations appropriately. Consequently, we believe that CN is not overpaying nor placing its own operations and shareholders at risk by participating in this transaction, and that both CN and the Province are justified in their purchase price agreement.

The NOLs and UCCs included in the transaction will provide CN with savings in the form of future tax adjustments. As evaluated by CRA, the Evaluation Committee properly weighed and measured these items in the proponent selection process and eventual agreement with CN. The transfer of these instruments, while providing value to CN, will bring significant compensation to the Province and its constituents above the payment received for the operating rights.

As demonstrated, continued operations of the BC Rail network under the status quo would not have provided to the Province the value that it will receive from this transaction. In our estimation, the restructuring of the BC Rail Freight Division provides to the Province an additional $796 million to $983 million of direct financial compensation, which will be enhanced further upon the completion of the BC Rail Port Subdivision transaction.

We believe that the total price paid by CN for BC Rail's operations provides fair and reasonable value to the Province. We support this conclusion with our analysis of the range of appropriate purchase prices for BC Rail's operations combined with consideration of transaction value from NOLs, UCCs, full property taxes, and the significant strategic value discussed in Chapter 3.

5 Declarations

5.1 ACTIVITIES

Charles River Associates Incorporated provides this Report of Findings to the British Columbia Ministry of Transport pursuant to the BC Rail Fairness Advisor Services Agreement dated October 10, 2003, between Her Majesty the Queen in right of the Province of British Columbia, represented by the Minister of Transportation, and Charles River Associates Incorporated.

The Report of Findings reflects the results of the inquiries of Charles River Associates Incorporated concerning the activities of the Province in selecting an operating partner for the Freight Division of BC Rail, and the independent analysis and commentary of Charles River Associates Incorporated with respect thereto.

In connection with the Report of Findings, Charles River Associates Incorporated has extensively reviewed materials, internal correspondence, and analyses made available to it by the Evaluation Committee, CIBC World Markets, and Borden Ladner Gervais. Furthermore, Charles River Associates Incorporated monitored meetings and interviewed participants and stakeholders, all as more fully described in the Report of Findings. Charles River Associates Incorporated compared the process design and management with generally accepted practices employed in similar transactions and noted and remarked on consistencies and differences.

All conclusions and statements represent the views of Charles River Associates Incorporated and may not reflect the opinions of officials or staff of the Province of British Columbia or the management of BC Rail.

5.2 TERMS

The Ministry of Transportation (Client) agrees that it will indemnify and hold harmless Charles River Associates Incorporated (CRA) from and against any and all losses, damages, liabilities, and expenses whatsoever, joint or several, to which CRA may become subject under statute, the common law, or otherwise relating to or arising out of, or based upon CRA's performance of this study. CRA shall not have liability to Client, and Client expressly waives any claim for special, consequential, exemplary or analogous damages relating to, arising out of, or based upon the services performed under or in connection with this study.

Client furnished, or caused to be furnished, to CRA such information (Information) as CRA believed appropriate to this engagement, and Client represented that, to its knowledge, all such Information was accurate and complete in all material respects. Client will notify CRA

promptly of any change in such Information of which it becomes aware and which may be material.

It is understood that CRA relied on and used the Information and other information that is publicly available without independent verification, and will not be responsible in any respect for the accuracy, completeness, or reasonableness of all such Information. CRA did not conduct any independent verification or any appraisal or physical inspection of properties or assets.

CRA assumes that all financial forecasts have been reasonably prepared and reflect the best then currently available estimates and judgments of Client or other participants in the transactions as to the expected future financial performance of BC Rail.

CRA makes no representation concerning regulatory approval of study outputs. Although we do not anticipate any potential regulatory issues, we recommend that Client consult counsel knowledgeable in regulatory affairs.

Appendix 1:
CRA Team Qualifications

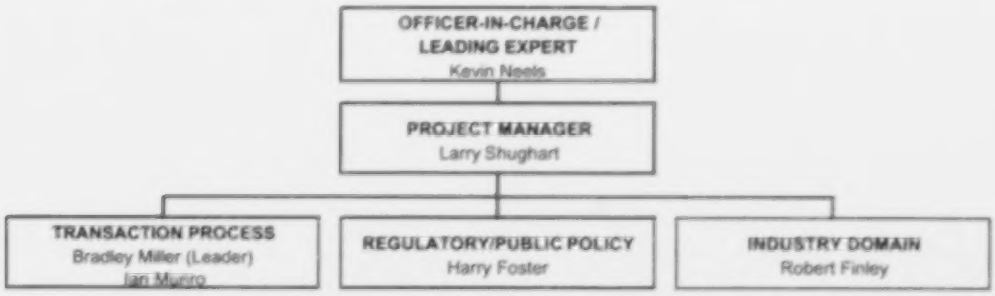
A1.1 PROJECT STAFF

CRA assembled a team of senior CRA professionals and consultants whose collective experience superbly equipped the team to perform the project. As described previously, CRA's work plan had three streams: transaction process, regulatory/public policy, and industry domain. Each stream was led by a senior CRA professional and executed by individuals with the most relevant experience.

In addition and in accord with CRA practice, two senior CRA staff members were assigned management responsibilities for the project. The *Officer-in-Charge* had overall corporate responsibility for overseeing the project and ensuring quality control, as well as the authority to bind the corporation contractually. The *Project Manager* was responsible for the day-to-day management of the project, ensuring that there was effective coordination and communication both among the project team members and between CRA and the Ministry of Transportation.

Figure 16 shows the organization of the project team. While each individual on the project team was assigned primarily to one of the three teams, several individuals contributed to more than one team.

Figure 16—Organization of the CRA Team



A summary of the skills of the proposed team members appears in Table 16. Biographies of each of the proposed team members are provided in the following sections.

Table 16—Skills Matrix for Project Team Members

Team Member	Areas of Expertise				
	Railroad/ Maritime Industry	Transport Economics and Policy	Restructuring and Privatization	Financial Analysis and Due Diligence	Management of Transaction Processes
Kevin Neels	X	X	X	X	
Larry Shughart	X	X		X	
Bradley Miller			X	X	X
Ian Munro			X		X
Harry Foster		X		X	
Robert Finley	X	X	X	X	X

PROJECT MANAGEMENT

Kevin Neels, Vice President and director of CRA's Transportation Practice, served as Officer-in-Charge for the project. For more than 25 years, Dr. Neels has led consulting and research projects covering many segments of transportation, including railroads, aviation, highways, pipelines, and public transport. He has directed many significant engagements relating to competition and market structure, pricing and revenue management, distribution strategy, e-commerce, and public policy. His work has also addressed issues relating to privatization, competition policy, system planning, and congestion management. In the automotive sector, his work has addressed supply chain management, product pricing and positioning, and dealer relations.

Dr. Neels has often been called upon to provide expert testimony in legal and regulatory proceedings. He has offered opinions on product and geographic market definition in antitrust disputes, and on calculation of damages arising from antitrust violations, breach of contract, theft of intellectual property, and other causes of action. Dr. Neels is particularly skilled in the application of econometric and statistical techniques, and his expert testimony often relies upon this foundation. On numerous occasions, he has testified before the U.S. Postal Rate Commission on issues relating to service costing and the appropriate use of econometric techniques for cost analysis. Prior to joining CRA, Dr. Neels served on the staff of the Rand Corporation, the Urban Institute, the consulting firm of Putnam, Hayes & Bartlett, and the accounting firm now known as KPMG. He holds a Ph.D. in Urban and Regional Theory from Cornell University.

Larry Shughart, a CRA Principal, served as Project Manager and oversaw coordination and continuity across the three streams of the CRA work plan. In addition, he utilized his extensive experience in the railroad industry as a key contributor to the industry domain portion of the project. Mr. Shughart is an expert in railroad operations and management, with

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14 years experience at CSX Corporation. While at CSX, Mr. Shughart held positions in a variety of business areas, including intermodal, performance improvement, locomotive operations, strategic planning, service design, finance, operations research, and engineering. While working in the operations research department at CSX/SeaLand Intermodal, Mr. Shughart supported the implementation of a new strategy that resulted in the closing of 12 ramp facilities, analysed the intermodal network using network simulation tools, and designed and implemented a back-haul pricing model.

Prior to CSX, Mr. Shughart worked in the short line industry. His academic experience includes membership on the engineering department advisory board at the University of Florida and research support for the M.I.T. Center for Transportation Studies. Mr. Shughart also served as a professor of economics at the University of North Florida. He holds an M.S. in Transportation from the Massachusetts Institute of Technology.

Transaction Process

Bradley A. Miller, a CRA Vice President, is head of the firm's Auctions and Competitive Bidding Practice and has worked on various auction, energy, transportation, e-commerce, international trade, antitrust, securities, environmental, and transfer pricing projects. He specializes in applied game theory, microeconomics, industrial organization, network industries, marketplace structure, public policy, and market restructuring. Dr. Miller's project work has included numerous auctions and other competitive bidding processes, market mechanism applications, structuring and implementing transactions, regulated industries, and matters involving international trade, antitrust, and securities. He has extensive experience in the design, implementation, and administration of auctions, other competitive bids, and marketplaces, as well as in bidding strategies and other support for bidders and participants in auctions, other competitive bids, and marketplaces. Dr. Miller has been instrumental in successful projects in electricity, telecommunications, defence, and other industries in several countries including Canada, the United States, Mexico, Australia, New Zealand, Nigeria, Switzerland, and the United Kingdom. He also has built transportation network models and a model of the traffic impact of building a new international bridge. He holds a Ph.D. in Economics from the University of California at Berkeley.

Ian Munro, a CRA Principal, works in the firm's Auctions and Competitive Bidding Practice and specializes in the design and implementation of markets, transactions, trading mechanisms, and auctions. Since joining CRA, he has advised regulators and firms worldwide in market and auction design projects in the electricity, natural gas, and telecommunications industries and has worked on a variety of antitrust/competition matters. Mr. Munro has been involved with electricity industry restructuring and market design projects in Alberta and New Jersey. He

also has advised Industry Canada on secondary trading of radio spectrum licenses and spectrum auction design and implementation. Prior to joining CRA, Mr. Munro was Senior Economist in the Radio communications and Broadcasting Regulatory Branch of Industry Canada, where he assisted in leading the successful completion of Canada's first radio spectrum auction in November 1999. Mr. Munro holds an M.A. in Economics from Dalhousie University and an M.A. in Public Administration from Carleton University.

Regulatory/Public Policy

Harry Foster, a CRA Principal, is an expert in antitrust economics and regulatory and other public policy issues. Dr. Foster has worked in these areas for a wide range of CRA clients, including numerous public-and private-sector clients with interests in the transportation sector. Notably, Dr. Foster was project manager for CRA's engagement by CN to analyse the consequences on competition of its potential acquisition of the eastern railroad assets of CPR. Prior to joining CRA, Dr. Foster was a senior economist at General Motors Corporation, consulting on public policy, antitrust, and credit law issues. He developed economic analyses that contributed to the formation of the company's public policy strategy in the areas of energy, the environment, transportation, and taxation. Dr. Foster holds a Ph.D. in Economics from the Massachusetts Institute of Technology.

Industry Domain

Robert Finley, a CRA Consultant, is an expert in the management and operation of short line and regional railroads with close to three decades of executive experience in the industry. His particular areas of specialty are finance, marketing, workouts, acquisitions, and leasing. As Executive Vice President of Iowa Interstate Railroad Limited, a $30 million regional railroad operating from Chicago to Omaha, he directed finance and human resources. As Vice President of Chicago West Pullman Transportation Corporation, a growth through acquisition-oriented company, Mr. Finley managed all aspects of new property purchases while assisting in selected marketing efforts.

Currently Mr. Finley assists the Housatonic Railroad, a short line railroad located in western Massachusetts and Connecticut, as Vice President of Finance. In this part time job he oversees the finance and many administrative functions of the property. He also works with Iowa Pacific Holdings, LLC, an operator of railroads and car repair facilities, for which he coordinates all financial and accounting functions. Mr. Finley has also held positions with the United States Railway Association, the Southern Railway System, and Southern Pacific Transportation Company. He received his M.B.A. Finance from the Wharton School of the University of Pennsylvania.

A1.2 PROJECT EXPERIENCE

This section demonstrates CRA's substantial experience in carrying out work most relevant to the proposed project. We provide descriptions of sample projects in the areas of financial advisory services, independent fairness advisory services, and other relevant and supplementary services in the areas of transportation and regulatory and public policy.

FINANCIAL ADVISORY SERVICES

The CRA team has significant experience in providing financial advisory services related to corporate restructuring, mergers, acquisitions, divestitures, and privatization and corporatization initiatives.

CRA has performed due diligence and investment banking-related analyses for a number of major transactions. These projects have included independent original analyses as well as reviews and evaluations of work performed by investment banks and other firms. CRA's experience in these matters includes the following:

- CRA analysed the financial impact of the spin-off of Air Touch Cellular from its parent company.

- For a Canadian corporation, CRA was retained to provide due diligence assistance in the acquisition of an international master alloy producer. As part of the due diligence effort, we were involved in evaluation of the target company's information to interpret the operating plan of the company. The study was done over a period of three weeks, with particular emphasis on assessment of competitive position and market outlook for the target company.

- CRA was retained by the bankruptcy trustee of a computer design company to conduct an analysis of investment banking work done by Bear Stearns. This analysis was related to the merger of the predecessor companies, focusing particularly on the capital structure of the merged firm.

- For a U.S. mining company, CRA was retained to assist with due diligence and acquisition of an industrial minerals mining company. We assessed market outlook for the target company's mineral products, as well as intermaterial competition in the future and its impact on projected future market share for the target company's products and its competitive position. As part of the due diligence effort, CRA, along with our client's investment banker and lawyers, was involved intensely in site visits to review information in data room, facilities evaluation, and assessment of the business strategies and business

plans of the target company. CRA also provided the client with a preliminary evaluation of the acquisition target based on cash flow analysis. We provided an independent opinion to the board of directors of our client company on the nature and attractiveness of the acquisition opportunity.

- For a large, European-based private equity firm, CRA was the due diligence partner in the potential acquisition of a global specialty chemicals company. CRA was assigned the task of developing a fundamental understanding all the business segments including historical performance, future performance, competitive position within the industry, and overall attractiveness of the company. In addition, CRA helped develop a revised 5-year business plan to an EBITDA level as well as outline the potential volatility of future cash flows.

- For a North American-based global chemical commodity company, CRA provided a strategic review and due diligence on a European-based chemical company. CRA completed a strategic assessment of each business division and developed scenarios for future business performance. In addition, CRA examined synergies and potential divestitures that did not fit with the current company. Also, CRA developed a shareholder value framework to assess the impact of the acquisition on the share price.

- A large international steel producer retained CRA to conduct an assessment of synergy values from the potential acquisitions of a specialty steel producer. CRA was an integral part of our client's due diligence team and visited all the target company's steel plants. We provided an independent assessment of market outlook and competitive position, and then estimated the cash value of synergies that would be realized by merging the operations of our client and target companies. CRA also spelled out the business strategy and organizational issues required for our client company to succeed in actually realizing the large projected synergy values. We made a presentation and recommendation to the board of directors of our client company based on this independent assessment.

CRA also has significant experience in the privatization or commercialization of government owned businesses and assets, both in North America and abroad. The firm's work has included evaluation of the financial potential of these initiatives as well as strategic analysis and advice concerning the optimal structure for public policy implications of these arrangements. Examples of the firm's experience in this area include the following:

- CRA staff provided internal economic expertise to the Canadian Competition Bureau regarding the privatization of Terminals 1 and 2 at Toronto's Pearson Airport, which resulted in their acquisition by the Greater Toronto Airport Authority. In later work we also analysed the Greater Toronto Airport Authority's acquisition of Pearson's Terminal 3.

- CRA staff addressed the Pacific Council of Senior Federal Officials in 1996, Vancouver, British Columbia, on lessons learned from New Zealand's corporatization and privatization experiences.

- For Mexico's Ministry of Commerce (SECOFI), CRA was retained to design privatization auctions of gold, silver, and phosphate mining properties. The design issues involved the choice between sealed bids and open bidding; between setting royalty rates and an instalment-payment scheme; and the setting of minimum bids. Using geological, geochemical, geophysical, and assay data, as well as cost and commodity price projections, we estimated the bidders' degree of uncertainty over the valuation of each prospect. We then simulated the effects on bidder decisions and on expected auction revenue of alternative auction designs, as a means of optimizing the royalty rate and minimum bids.

- CRA staff played a critical role in a project to evaluate proposals for reforming the U.S. air traffic control (ATC) system, and to develop an effective financial and organizational structure for a reformed ATC. This assignment, conducted under extremely tight deadlines, required an assessment of ATC technological capabilities, estimation of the cost effects of ATC on the airline industry, an economic analysis of current and proposed ATC organizational forms, and a detailed financial assessment of proposed ATC entities.

- For a major defence contractor, CRA assessed the business development potential in a collection of privatization initiatives of the U.S. Department of Defense. It evaluated the full range of Efficient Facilities Initiatives, including housing privatization, enhanced-use leasing, energy conservation, and base realignment and closure. In particular, CRA developed a methodology for employing the new contracting tools underlying these initiatives to target business development opportunities that may arise from a round of base realignments and closures in 2003. The client used CRA's strategic advice and assessments in its preparation of annual strategy and financial plans.

- For Treasury of New Zealand, CRA staff evaluated methodologies for evaluating the outcomes associated with alternate forms of corporatization and privatization. This research resulted in the Treasury research paper, *Review of Methodologies for Estimating the Welfare Impacts of Corporatization and Privatization*, which was co-authored by Professor Anthony E. Boardman, Professor of Public Policy, University of British Columbia, and Alister Hunt of CRA.

- CRA staff researched in detail the process of reorganizing New Zealand's electricity generation and transmission assets as a profit-seeking corporation. This research resulted in the co-authorship of the book *The Power to Manage*, published by Oxford University Press in 1991.

- For Ministry of Foreign Affairs, New Zealand, CRA staff led groups of senior government officials through programs that demonstrated the principles underlying commercialization reforms of government trading entities. Senior government officials were from Thailand, Myanmar, Laos, Cambodia, Vietnam and China.

CRA has also been directly involved in the implementation of significant transactions involving the sale or restructuring of infrastructure assets, with particular experience in the electric utility and telecommunications industries. These industries, like the railroad industry, exhibit network characteristics that require especially careful attention to transaction design and implementation if the restructuring is to balance tradeoffs and potentially conflicting objectives such as maximizing revenue raised and promoting competition post-transaction. This experience includes both the design and execution of auctions of these assets, development and administration of competitive bidding processes, and the design and implementation of project financing mechanisms. Relevant examples of these projects include the following:

- For the Province of Alberta, CRA designed an auction of Power Purchase Arrangements for all of the regulated fossil capacity in the province, approximately 6,500 MW. The transfer of title to capacity rights of these plants to marketers through sale of power purchase arrangements (PPAs) was an integral part of the deregulation of Alberta's electricity system. CRA designed the auction, marketed and promoted it to participants, developed auction rules and other materials essential to the auction, and implemented the auction over the Internet using customized software. The auction took place in August 2000, and raised over CAD$1 billion.

- For Arizona Public Service, CRA was retained to provide advice on competitive bidding processes for standard offer service. This included both standard offer service product definition as well as determining the best approach to procure supplies to satisfy the standard offer service obligation. We advised APS on its recently completed RFP process, which was viewed as highly successful by the Arizona Corporation Commission and other parties. Among other tasks, we helped develop and administer the competitive bidding RFP process to secure supplies to satisfy standard offer service load for deliveries beginning July 1, 2003. CRA assisted the client on: its needs assessment and defining the products to be procured, drafting the RFP, customizing the EEI Master Power Purchase & Sale Agreement, developing the bidder list, structuring the schedule, preparing documentation, developing the competitive bidding Web site, developing bidder qualification criteria, structuring and attending bidder information sessions, responding to bidders' questions and providing input for posted Q&As, developing bid evaluation criteria and processes, and evaluating the bids. We also advised APS on future procurements for standard offer service including the use of descending clock auctions.

CRA Team Qualifications

- CRA was retained by the Tennessee Valley Authority (TVA) to conduct a two-phase project. In Phase I, we confirmed TVA's objectives and constraints, and identified and evaluated several alternative financing methods towards the restart of Browns Ferry Nuclear Unit 1 ("BFN-1"). These alternatives included pre-payment programs, leaseback alternatives, other leasing approaches, and joint venture possibilities. The various alternatives were compared along several dimensions with each other and with TVA's traditional debt financing. In Phase II, we further refined, organized, and help implement the financing alternatives approved by TVA's Board of Directors.

- CRA was selected to assist Industry Canada in its first spectrum auction. The tasks included: (1) Assist in preparing materials for pre-auction bidder information sessions, participate in the first information session, and participate in a mock auction; (2) Provide advice during the auction including recommendations on round scheduling, activity rules, stage changes, and minimum-bid increments; (3) Monitor and interpret bidding activity and provide recommendations on the communications and other operational activities of the auction; and (4) Deliver a post-auction critical assessment of the planning, design, and operation of the auction. Overall, our role was to help ensure a highly successful auction and to ensure that future auctions will benefit from the experiences of the first auction.

- Following the collapse of Enron Canada, a major oil and gas company needed to quickly reassign a large number of diverse natural gas contracts. Using its expertise in the natural gas industry and its experience in auction design and implementation, CRA assisted the client with devising and carrying out an appropriate bidding process, all within a matter of days. With CRA's help, the client was successful in conducting a bidding process that was prudent, rational, and fair. All the contracts were reassigned at competitive prices and across a sufficiently diverse mixture of qualified counter-parties.

- For a large U.S. utility, CRA was retained for two tasks. For the first task, we helped develop and administer a competitive bidding RFP process to secure supplies to satisfy standard offer service load for deliveries beginning July 1, 2003. CRA assisted the client on: its needs assessment and defining the products to be procured, drafting the RFP, customizing the EEI Master Power Purchase & Sale Agreement, developing the bidder list, structuring the schedule, preparing documentation, developing the competitive bidding Web site, developing bidder qualification criteria, structuring and attending bidder information sessions, responding to bidders' questions and providing input for posted Q&As, developing bid evaluation criteria and processes, and evaluation of the bids. For the second task, we helped the utility design and implement descending clock auctions for future procurements.

CRA Team Qualifications

Fairness Advisory Services

CRA has extensive experience in monitoring the fairness of transactions involved in the restructuring of network industries.

- After completing the auction of Power Purchase Arrangements (PPAs) for the Alberta Department of Resource Development (ADRD), CRA provided a post-auction assessment to ADRD. We analysed whether the process was fair, open, objective, and transparent, and whether the outcome represented competitive, market values for the PPAs. We assessed whether, as a result of the auction process, the post-auction marketplace provided more competition and benefits for consumers, and whether the provincial government's objectives were met. In our opinion the PPA auction was consistent with ADRD's objectives for restructuring and that accepting the results of the auction maximized the value of the PPAs to consumers in Alberta.

- For the Connecticut Department of Public Utility Control (CT DPUC), CRA has been retained to monitor the procurement for Transitional Standard Offer (TSO) service by the two electric distribution companies in Connecticut. The consulting services provided include all aspects of the procurement process including reviewing product definition; reviewing draft documents (RFPs, term sheets, contracts, etc.); monitoring marketing, promotion, and communications activities; reviewing bidder qualification criteria and bid evaluation criteria; verifying the quantitative elements of bid evaluation; providing post-bidding reports and affidavits, and so forth. The CT DPUC has emphasized the need to ensure the procurement process does not advantage affiliates of the two utilities.

- CRA was retained by the New Jersey Board of Public Utilities (NJ BPU) to oversee and monitor the procurement process proposed by four electric distribution companies (EDCs) in New Jersey to procure supplies for Basic Generation Service (BGS) in Year 4 (supply period beginning August 2002) as part of the state's electricity restructuring. CRA subsequently was retained by the NJ BPU to oversee and monitor the procurement processes proposed by the four electric distribution companies to procure supplies for BGS for Year 1 and Year 2 of the Post-Transition Period (i.e., for supply period beginning August 2003 and supply period beginning August 2004). Among other tasks, CRA has been responsible for: providing advice on BGS proposals; providing advice on BGS auction processes, designs, and rules; monitoring the marketing of the auction; reviewing the data and information exchange; monitoring efforts to educate bidders on the auction process and rules; monitoring the administration of the auction; advising on the final auction results; and, providing a report on the auction results with recommendations to improve future auctions. Our advice and recommendations were adopted by the EDCs and Auction Manager, and contributed to the successful BGS auction processes.

- CRA was retained by the Oregon Public Utility Commission (OPUC) to evaluate the generation asset divestiture auction process proposed by Portland General Electric Company (PGE) and its financial advisor. We assessed how well the proposed auction process and alternatives met the following objectives of OPUC: maximize efficiency and the benefits for PGE customers, maximize the auction revenue to minimize utility stranded costs, ensure an equitable and transparent auction, preclude collusion, maintain system reliability, and foster competition. In addition, we evaluated the auction alternatives in terms of the advisability of allowing a PGE affiliate to participate in the auction process as a bidder. CRA provided testimony in OPUC's proceedings.

Railroad Industry

CRA has significant experience in the analysis of railroad industry issues. The firm has assisted both governments and railroads in matters concerning market definition, appropriate trackage rights fees, intra-railroad competition, and competitive access to rail infrastructure. Examples of this work include the following:

- CRA was retained by the Canada Transportation Act Review Panel to examine the merger review process that would govern a rail merger in Canada should such a transaction be proposed. Our report commented on the adequacy of the existing merger review process under the Canadian Competition Act as well as the merger review processes for other network industries, such as telecommunications, broadcasting, banking and airlines where additional regulatory bodies are involved. In addition, it discussed the issue of a political role in merger review.

- CRA was retained by Transport Canada to evaluate the likely competitive effects of Canadian Pacific Rail's (CPR) 1994 proposal to acquire the eastern rail freight operations of Canadian National (CN), then a Canadian Crown corporation. CPR's proposal included a haulage agreement in which CN could continue to run its east-west traffic on CPR's track between Winnipeg and either Toronto or Montreal to serve its eastern customers. This proposal followed an earlier unsuccessful joint-venture effort by the two railroads. Applying a competitive analysis framework that followed the total welfare approach in the Canadian Merger Guidelines, CRA's analysis weighed the likely competitive harm of the proposed acquisition against its estimated achievable synergies and efficiencies.

- CRA was subsequently retained by the privatized CN to analyse and address the likely competitive effects of an acquisition of the eastern rail freight operations of CPR. As part of this effort, CRA conducted competitive analyses for transportation of all the major commodities carried by CN and CPR in eastern Canada, identifying the constraints placed

on rail freight pricing both by rail competition and by other factors such as competition from other modes of transportation and competition in end-product markets.

- CRA provided economics assistance in determining if a small Canadian short line had a legitimate competition law complaint against the country's two major rail companies.

- On behalf of a group of railroads, CRA studied policy issues relating to increased competitive access to rail infrastructure. Our analysis included a comparative assessment of infrastructure access provisions in the rail and airline industries. The goal was to explain the differing effects of changes in those provisions on the competitive environment in each mode.

- On behalf of the Canadian Wheat Board, CRA is currently involved in an antidumping/countervailing (AD/CVD) duty investigation concerning wheat. U.S. wheat producers, representing the U.S. wheat industry for durum and hard red spring wheat, filed an AD/CVD complaint against Canada alleging that the Canadian Wheat Board, a national trading agency, has caused material injury to the U.S. industry. Allegedly, this was facilitated by the subsidizing of Canadian wheat producers through the underpricing of rail costs by the Canadian government and the dumping of wheat into the U.S. market. CRA's work will involve, among other tasks, simulating the effects of the antidumping/countervailing duty margins as calculated by the U.S. Department of Commerce and analyzing U.S. and Canadian freight rail rates as they relate to wheat sales throughout the world.

- For a Class I railroad, CRA recently conducted an analysis of appropriate trackage rights fees that would be charged to a third party and adjustments of those fees in the circumstance of merged assets between two formerly-separate railroads. The analysis required a review of academic literature and regulatory commission rulings of the treatment of such joint cost allocations, and also required us to understand and apply a large computerized cost allocation model approved by the regulator.

- On behalf of the United Kingdom's Office of the Rail Regulator, CRA analysed markets in rail freight and in used rail locomotives, considering the extent of competitive behaviour in both cases. The purpose of the analysis was to assess the degree of dominance of a particular railway company in upstream markets in provision of locomotives and their component parts and in downstream markets in provision of rail haulage services.

- A CRA consultant conducted analyses relating to a dispute before the Australian Competition and Consumer Commission (ACCC) over rail network access in that country.

Appendix 2: Interviews

A2.1 INTERVIEW LIST

Table 17—List of Interviewed Parties

Stakeholder/Interested Party	Interviews Completed
Provincial officials and staff	4
Evaluation Committee	4
BC Rail executives	6
BC Rail employees	9
Provincial advisors and consultants	7
BC Rail shippers and receivers	7
First Nations representatives	2
Community representatives	2
Proponents	10
Total	51

Appendix 2: Interviews

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Community representatives	2
Proponents	10
Total	51

Notes: No double counting.

A2.2 INTERVIEW GUIDE

Figure 17—Standard Questionnaire Form for BC Rail Stakeholders

Interviewer	
Interviewee Name	
Interviewee Company/Organization	
Interviewee Phone Number	
Date	

#	Question	Applicable Audience(s)
1	How were the financial (CIBCWM) and legal (BLG) advisors chosen? Have these advisors been effective in conducting a process that will achieve the Province's objectives? Are you comfortable that the advisors' fees are competitive and represent good value for the Province?	Evaluation Committee / Provincial staff
2	How were potential conflicts-of-interest dealt with among the advisors: through the language in their contracts with the provincial government? via specific protocols developed for these processes? by relying on advisors' general corporate conflict-of-interest policies and practices?	Evaluation Committee / Provincial Staff CIBCWM BLG
3	What other restructuring options were considered in addition to the bidding processes that have been chosen: e.g., employee buyout, wholesale privatization of BC Rail, negotiated sale to a shipper consortium? For those options considered, why were they rejected?	Evaluation Committee / Provincial staff BC Rail

#	Question	Applicable Audience(s)
	Should other restructuring options have been considered in addition to the bidding processes that have been chosen: e.g., employee buyout, wholesale privatization of BC Rail, negotiated sale to a shipper consortium?	Mayors First Nations Shippers / Shippers' Advisors Unions
4	Why was the "Freight" piece packaged as it was? (Why did the Province retain the land and track? Lease length?) Could other asset divisions, definitions, or combinations have generated greater interest and value?	Evaluation Committee / Provincial staff BC Rail CIBCWM BLG
	Was the "Freight" piece packaged optimally? (Provincial retention of the land and track? Lease length?) Could other asset divisions, definitions, or combinations have generated greater interest and value?	Proponents / Potential Proponents
5	What efforts were undertaken to advertise the processes and to solicit interest from prospective proponents? Any surprise no-shows? Why did some potential proponents choose to discontinue their participation before the submission of round one bids? Why did RailAmerica abandon the process after the submission of Phase I bids?	Evaluation Committee / Provincial staff BC Rail CIBCWM BLG
	Were sufficient efforts undertaken to advertise the processes and to solicit interest from prospective proponents? Why did you choose to discontinue your participation in the process when you did?	Proponents / Potential Proponents

#	Question	Applicable Audience(s)
6	What measures were taken to ensure competitive bidding? What problems or concerns, if any, arose regarding possible collusion, inappropriate communication among proponents, etc., and how were these addressed?	Evaluation Committee / Provincial staff CIBCWM BLG
	Were sufficient measures taken to ensure competitive bidding?	Proponents / Potential Proponents
7	What measures (including written procedures or protocols) were implemented to ensure that all proponents were treated in a consistent, fair, and impartial manner? Is there any evidence that any proponent felt that it has not been treated in a consistent, fair, and impartial manner?	Evaluation Committee / Provincial staff CIBCWM BLG
	Was the process run in a consistent, fair, and impartial manner?	Proponents / Potential Proponents
8	Did proponents feel comfortable with the process timeline?	Evaluation Committee / Provincial staff CIBCWM BLG
	Were you comfortable with the process timeline? Rushed?	Proponents / Potential Proponents
9	Were the data and information provided to proponents adequate and appropriate? Timely? Complaints? Are you aware of any "leaks" or other inappropriate communications that may have been detrimental to the process?	Evaluation Committee / Provincial staff BC Rail CIBCWM BLG
	Were the data and information provided to proponents adequate and appropriate? Timely?	Proponents / Potential Proponents

#	Question	Applicable Audience(s)
10	Were the objectives for the process appropriate and clearly understood? How and when were the relative weightings of the various objectives determined?	Evaluation Committee / Provincial staff BC Rail CIBCWM BLG Mayors First Nations Shippers / Shippers' Advisors Unions
	Were the Province's objectives for the process appropriate and clearly understood? Did you have sufficient and timely information regarding the relative importance of the Province's stated objectives?	Proponents / Potential Proponents
11	Were the specific concerns of affected communities, First Nations, shippers, and unions well understood? Were these concerns addressed appropriately? How were these concerns weighted against once another, as well as against the price received?	Evaluation Committee / Provincial staff BC Rail CIBCWM BLG
	What were your specific concerns with regard to the restructuring process? Were your concerns well understood by those managing the restructuring process? Were your concerns addressed appropriately?	Mayors First Nations Shippers / Shippers' Advisors Unions

#	Question	Applicable Audience(s)
12	How well did the two-step negotiated process (i.e., round one indicative expressions of interest followed by round two proposals followed by direct negotiations) function? What alternatives or deviations were considered: e.g., formal, structured auction; binding, rather than indicative, round one expressions of interest; best-and-last round two proposals with no negotiations, etc.?	Evaluation Committee / Provincial staff CIBCWM
	How well did the two-step negotiated process (i.e., round one indicative expressions of interest followed by round two proposals followed by direct negotiations) function? What improvements could have been made to the bidding process?	Proponents / Potential Proponents
13	What, if any, exogenous factors had unexpected impacts on the bidding process?	Evaluation Committee / Provincial staff BC Rail CIBCWM BLG Proponents / Potential Proponents

#	Question	Applicable Audience(s)
14	Did the Province receive a "good" price for the transaction? • based on a comparison to recent comparable transactions? • based on a financial evaluation of the current business as a stand alone "going concern"? • based on a forecast of what cost efficiencies might reasonably be expected in the future and a forecast of reasonable traffic growth/decline? • based on expected synergies (lower costs, better market penetration, higher prices) with the proposed buyer? • based on any models that CIBCWM or the Province might come up with? • when taking into account the other impacts of the deal?	Evaluation Committee / Bureaucrats BC Rail CIBCWM BLG
15	Overall, did the restructuring process achieve its stated objectives and deliver fair value to the Province without undue risk? How did the positive aspects of the proposals compare to less desirable impacts (such as job losses?)?	Evaluation Committee / Bureaucrats BC Rail CIBCWM BLG Mayors First Nations Shippers / Shippers' Advisors Unions Proponents / Potential Proponents
16	With regard to the issues we've discussed, is there anyone else with whom you recommend we speak?	All

Appendix 3:
Financial Models Detail

Figure 18—Discounted Cash Flow Model: Scenario 1

(Dollars in thousands)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Revenue															
Forest Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Oak Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Operating Rate"	[illegible]														
Less:															
Reversal of non-cash pension income	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)
Non-incremental municipal taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental cost at BC Rail Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental impact of coal traffic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normalized pension expense assuming no holiday	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Add back:															
Overstatement of SERP expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Operating Rate"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (2003 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sum of NPV ($000s)	[illegible]														

Financial Models Detail

Figure 18—Discounted Cash Flow Model: Scenario 1 (cont'd)

(Dollars in thousands)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue															
Forest Products	104,000	104,000	104,000	104,000	104,000	104,000	104,000	104,000	104,000	104,000	104,000	104,000	104,000	104,000	104,000
Bulk Products	53,535	53,535	53,535	53,535	53,535	53,535	53,535	53,535	53,535	53,535	53,535	53,535	53,535	53,535	53,535
Other	45,045	45,045	45,045	45,045	45,045	45,045	45,045	45,045	45,045	45,045	45,045	45,045	45,045	45,045	45,045
Total Revenue	204,245	204,245	204,245	204,245	204,245	204,245	204,245	204,245	204,245	204,245	204,245	204,245	204,245	204,245	204,245
Total Expenses	102,750	102,750	102,750	102,750	102,750	102,750	102,750	102,750	102,750	102,750	102,750	102,750	102,750	102,750	102,750
EBITDA	101,400	101,400	101,400	101,400	101,400	101,400	101,400	101,400	101,400	101,400	101,400	101,400	101,400	101,400	101,400
Capital expenditures	38,700	38,700	38,700	38,700	38,700	38,700	38,700	38,700	38,700	38,700	38,700	38,700	38,700	38,700	38,700
"EBIT"	62,700	62,700	62,700	62,700	62,700	62,700	62,700	62,700	62,700	62,700	62,700	62,700	62,700	62,700	62,700
"Operating Rate"															
Less:															
Reversal of non-cash pension income	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)
Net incremental municipal taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental rent at BC Rail Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental impact of coal traffic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normalized pension expense assuming no noble	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Add-back:															
Overcalculation of TERP expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Adjusted EBITDA	89,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000	89,000
Adjusted "EBIT"	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300
Adjusted "Operating Rate"	87.7%	87.7%	87.7%	87.7%	87.7%	87.7%	87.7%	87.7%	87.7%	87.7%	87.7%	87.7%	87.7%	87.7%	87.7%
Taxes @ 0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earnings	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300	50,300
Annual present value (2003 dollars)	12,207	9,298	10,202	8,300	8,520	7,700	7,074	6,443	5,800	5,344	4,867	4,433	4,037	3,677	3,245
50-year NPV ($000s)	50-year NPV 1005 mil														

Financial Models Detail

Figure 18—Discounted Cash Flow Model: Scenario 1 (cont'd)

(Dollars in thousands)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Revenue															
Forest Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bulk Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Operating Rate"															
Less:															
Reversal of overcount pension income	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Net incremental municipal taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental cost at BC Rail Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental impact of coal traffic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normalized pension expense assuming no holiday	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Add back:															
Overstatement of SERP expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Operating Rate"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (2003 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50-year NPV ($000s)	50-year NPV	[illegible]													

Financial Models Detail

Figure 18—Discounted Cash Flow Model: Scenario 1 (cont'd)

(Dollars in thousands)	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055
Revenue																
Fixed Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bulk Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Operating Ratio"																
Less:																
Reversal of non-cash pension income	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)
Net incremental municipal taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental rent at BC Rail Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental impact of coal traffic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normalized pension expense assuming no hold	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Add back:																
Overstatement of SERP expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Operating Ratio"	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*	*[illegible]*
Taxes @ 0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (1993 dollars)	990	960	927	897	866	839	809	780	755	730	706	684	661	639	618	598
50-year NPV (1993)	50-year NPV	$[illegible] mil														

Financial Models Detail

Figure 19—Discounted Cash Flow Model: Scenario 2

(Dollars in thousands)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Revenues															
Force Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bulk Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Operating Ratio"	[illegible]														
Less:															
Reversal of non-cash pension income	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Non-incremental municipal taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental cost at BC Rail Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental impact of road traffic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normalized pension expense assuming no holiday	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Add back:															
Contribution to SERP income	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Operating Ratio"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual percent value (2003 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10-year NPV ($000s)	10-year NPV	[illegible]													

Financial Models Detail

Figure 19—Discounted Cash Flow Model: Scenario 2 (cont'd)

(Dollars in thousands)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Revenue															
Fuel Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bulk Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Growing Rate"															
Less:															
Reversal of non-cash pension income	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Non-commercial municipal sales															
Incremental rev. at BC Rail Centre															
Incremental impact of coal traffic															
Distributed pension expense assuming no notice	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Add back:															
Overstatement of GTP expense															
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Growing Rate"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 0%															
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (2000 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
60-year NPV (2000s)	Rytar NPV	[illegible]													

Financial Models Detail

Figure 19—Discounted Cash Flow Model: Scenario 2 (cont'd)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2040	2041	2042	2043	2044	2045	2046	2047
Revenue														
Fuel Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	340,386	355,353	362,460	356,70	377,094	384,646	392,139	400,06
Bulk Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	60,000	62,987	64,865	67,084	69,395	71,389	73,637	75,000
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	65,387	68,125	69,687	71,408	73,508	75,399	77,757	79,243
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	535,671	546,365	557,32	568,450	579,029	590,424	603,753	615,30
Total Exp. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	347,250	355,225	363,752	371,041	380,099	388,70	397,58	405,48
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	188,413	191,60	193,58	196,09	199,732	202,705	206,737	209,824
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	38,700	38,700	38,700	38,700	38,700	38,700	38,700	38,700
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	149,713	152,900	154,881	157,39	161,032	164,005	167,037	170,124
[illegible]														
Less:														
[illegible]	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)
[illegible]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
[illegible]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
[illegible]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
[illegible]	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Add back:														
[illegible]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	176,913	178,700	181,581	184,40	187,332	190,305	193,337	196,424
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	137,213	140,000	142,881	145,70	148,632	151,605	154,637	157,724
Adjusted "Depreciation"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	39,401	39,401	39,401	39,401	39,401	39,401	39,401	39,401
Tax [illegible]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	137,213	140,000	142,881	145,70	148,632	151,605	154,637	157,724
Annual present value (2000 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2,475	2,259	2,051	1,861	1,70	1,555	1,420	1,303	1,199
[illegible] (2000s)	[illegible]													

Financial Models Detail

Figure 19—Discounted Cash Flow Model: Scenario 2 (cont'd)

(Dollars in thousands)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Revenue																
Fossil Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bulk Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Operating Gain"																
Less:																
Revenue at non-cash pension income	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)
Non-incremental municipal taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental rent at BC Fuel Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incremental impact of new traffic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normalized pension expense assuming no hedi	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Add back:																
Overstatement of SERP expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Operating Gain"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 3%																
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (2003 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40-year NPV (2003s)	40-year NPV [illegible]															

Financial Models Detail

Figure 20—Discounted Cash Flow Model: Scenario 3

(Dollars in thousands)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Revenue															
Fixed Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bulk Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Operating Flow"	[illegible]														
Less:															
Reversal of non-cash pension income	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Net incremental municipal sales	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incremental cost at BC Fuel Centre	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incremental impact of coal traffic															
Normalized pension expense accruing vs. hobbs	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Add back:															
Overstatement of SERP expense	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Adjusted Operating Flow"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 30%		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (2003 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10-year NPV (2000s)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Figure 20—Discounted Cash Flow Model: Scenario 3 (cont'd)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Revenue															
Fares/Passenger	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sub-Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Cash-only flow"															
Less:															
Financial or non-cash pension expense	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Net incremental homeport costs	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incremental cost at DC Rail Center	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incremental impact of road traffic															
Normalized pension expense assuming no hiatus	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Add back:															
Capitalization of IDTP expense	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Cash-only flow"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 35%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (2000 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

10-year NPV (2000$): [illegible]

Financial Models Detail

Figure 20—Discounted Cash Flow Model: Scenario 3 cont'd)

(Dollars in thousands)	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047
Revenue															
Fuel Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bulk Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Drawup/Spin"															
Less:															
Reversal of non-cash pension income	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)
Net incremental municipal taxes	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)
Incremental rent at BC Rail Centre	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)
Incremental impact of coal traffic															
Normalized pension expense assuming no hedge	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)
Add back:															
Over payment of SERP expense	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Drawup/Spin"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 38%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (2003 dollars)	3,587	3,200	2,930	2,663	2,430	2,217	2,020	1,849	1,694	1,556	1,430	1,319	1,224	1,134	971
60-year NPV (2003c)	60-year NPV	$95 mil													

Financial Models Detail

Figure 20—Discounted Cash Flow Model: Scenario 3 (cont'd)

(Dollars in thousands)																
Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fuel Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bulk Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Operating Rate"																
Less:																
Revenue of non-cash pension income	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Net incremental municipal taxes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incremental rent at BC Rail Centre	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incremental impact of cost traffic																
Normalized pension expense, assuming no risk	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Add Back:																
Quantitative or SDPP expense	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Operating Rate"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 30%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (2000 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
60-year NPV (2000s)	60-year NPV	[illegible]														

Financial Models Detail

Figure 21—Discounted Cash Flow Model: Scenario 4

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Revenue:															
Power Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Rail Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Operating Flow"	[illegible]														
Less:															
Financial or non-cash pension income	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Non-incremental municipal costs	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incremental cost of EIT Rail Lease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incremental impact of cost shifts															
Non-cash pension expense assuming no hikes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Add back:															
Deferred payments or EITF expense	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Operating Flow"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 35%		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (2000 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
65 year NPV (2000s)	Power NPV	$75 mil													

Figure 21—Discounted Cash Flow Model: Scenario 4 (cont'd)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Revenue:															
Fixed Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gold Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Operating Flow															
Less:															
Reversal of non-cash pension income	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)	(7,466)
Net incremental leasing rate	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)
Incremental cost of capital	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)
Incremental impact of cost traffic															
Normalized pension expense accounting income	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Add back:															
Commencement of CCPP expense	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted Operating Flow	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 30%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual pension value (2000 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

All-year NPV (2000s): [illegible] NPV [illegible]

Financial Models Detail

Figure 21—Discounted Cash Flow Model: Scenario 4 (cont'd)

(Dollars in thousands)	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047
Revenue															
Forest Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sub Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Operating Rate"															
Less:															
Reversal of non-cash pension income	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)	(7,400)
Non incremental municipal taxes	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Incremental rent at BC Rail Centre	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)	(700)
Incremental impact of stock options	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normalized pension expense assuming no holiday	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Add back:															
Overstatement of SERP expense	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Operating Rate"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 30%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value ($Mil. dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
60-year NPV ($000s)	60-year NPV	$770 mil													

Financial Models Detail

Figure 21—Discounted Cash Flow Model: Scenario 4 (cont'd)

[illegible]	2040	2041	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063
Revenue																
Forest Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bulk Products	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Revenue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Expenses	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Capital expenditures	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"Operating Rate"																
Less:																
Reversal of non-cash pension income	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Net incremental municipal taxes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incremental cost at BC Rail Centre	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Incremental impact of road traffic																
Normalized pension expense assuming no hold	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Add back:																
Overstatement of SERP expense	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted EBITDA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "EBIT"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Adjusted "Operating Rate"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taxes @ 30%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Earnings	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Annual present value (2003 dollars)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50-year NPV (2000s)	50-year NPV	[illegible]														